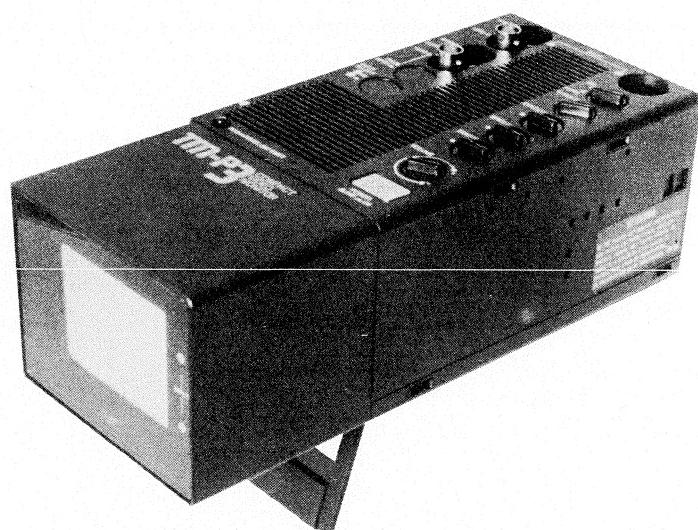


No. 8264

# JVC Service Manual



MODEL **TM-P3E**

**VICTOR COMPANY OF JAPAN, LIMITED**

# Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## • Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
2. Parts identified by the  $\Delta$  symbol and shaded (■■■) parts are critical for safety.  
Replace only with specified part numbers.  

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.
3. Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers
  - 4) Insulation sheets for transistors
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

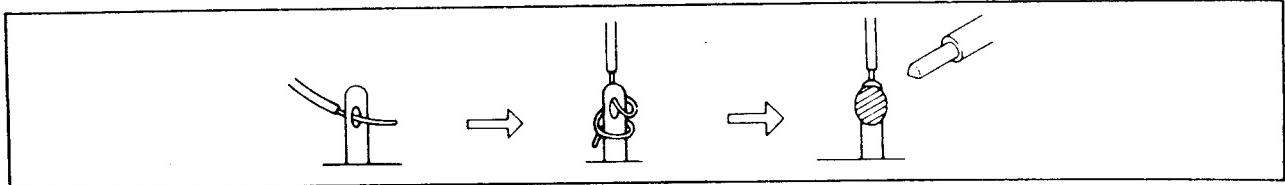


Fig. 1

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

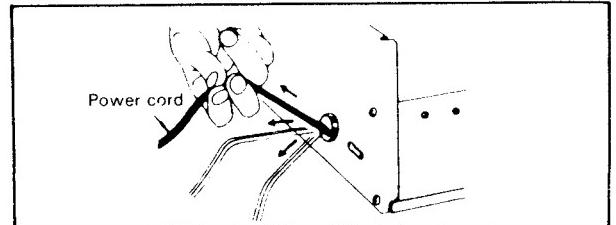


Fig. 2

9. Also check areas surrounding repaired locations.

#### 10. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

#### 11. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1. Connector part number : E03830-001
2. Required tool : Connector crimping tool of the proper type which will not damage insulated parts.
3. Replacement procedure
  - 1) Remove the old connector by cutting the wires at a point close to the connector.  
Important : Do not reuse a connector (discard it).
  - 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
  - 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
  - 4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
  - 5) Check the four points noted in Fig. 7.

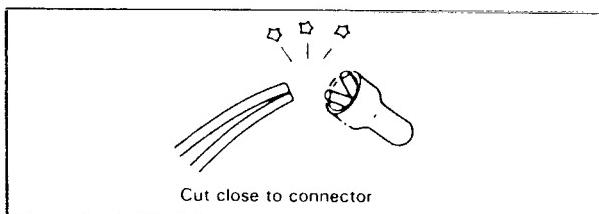


Fig. 3

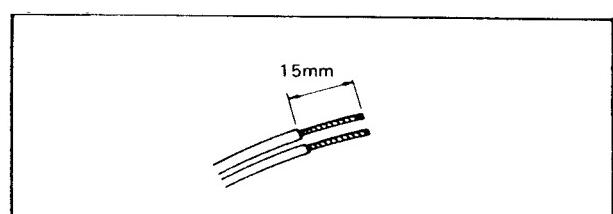


Fig. 4

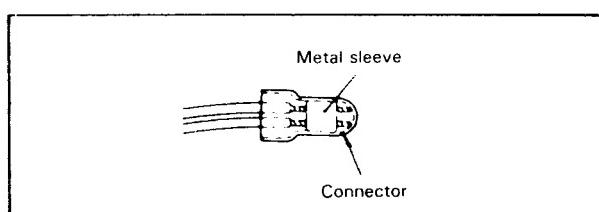


Fig. 6

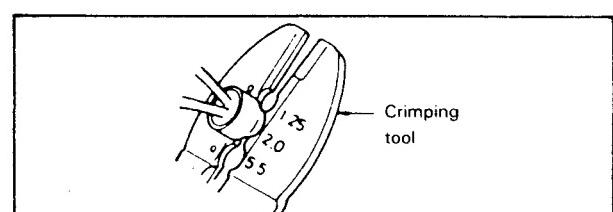


Fig. 5

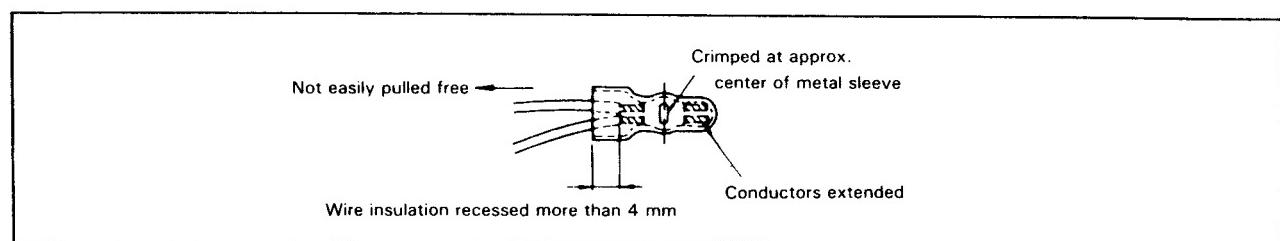


Fig. 7

## • Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

### 1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

### 2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

### 3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance ( $d$ ),( $d'$ ) between soldered terminals, and between terminals and surrounding metallic parts. See table below.

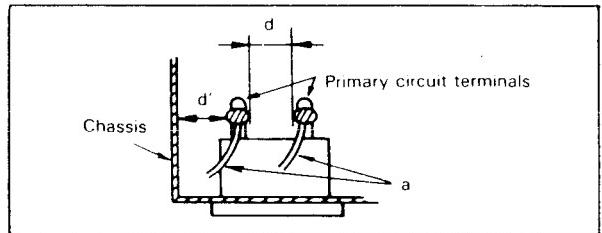


Fig. 8

Table 1: Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance ( $d$ ),( $d'$ )
100 V	Japan	$\geq 1 M\Omega/500 V$ DC	1 kV 1 minute	$\geq 3$ mm
110 to 130 V	USA & Canada	— — —	900 V 1 minute	$\geq 3.2$ mm
* 110 to 130 V 200 to 240 V	Europe Australia	$\geq 10 M\Omega/500 V$ DC	4 kV 1 minute	$\geq 6$ mm ( $d$ ) $\geq 8$ mm ( $d'$ ) (a Power cord)

\* Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

### 4. Leakage current test

Confirm specified or lower leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

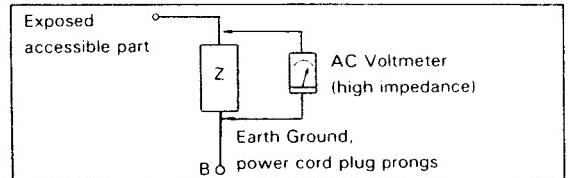


Fig. 9

Table 2: Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
100 V	Japan	$0 - \text{---} - 1 k\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F} - \text{---} - 1.5 k\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 200 to 240 V	Europe Australia	$0 - \text{---} - 2 k\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ nA dc}$	Antenna earth terminals
		$0 - \text{---} - 50 k\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

## FEATURES

- Automatic switching between PAL and SECAM colour systems with manual override for PAL.
- Compact, lightweight 3-inch video monitor designed especially for portable application.
- Flexible 3-way power supply system — rechargeable Ni-Cad battery pack, AC power pack and car battery adapter (all optional).
- All power supply units — battery packs, AC power pack and car battery adapter — are the same as those used with the HR-G3.
- Two sets of audio and video input connectors with input select switch and corresponding input indicators on the front panel beside the screen.
- Input signals that are being monitored are directly output through the bridged-out connector.
- Sliding hood to reduce screen glare for optimum viewability.

## CONTENTS

Features . . . . .	2
Precautions . . . . .	2
Controls and connectors . . . . .	3
Power supply system . . . . .	5
Attaching & removing power supply units . . . . .	6
Charging the battery pack (optional) . . . . .	7
Connections . . . . .	9
Operation procedure . . . . .	11
In case of difficulty . . . . .	13
Specifications . . . . .	13

## PRECAUTIONS

### Handling and storage

- Prevent inflammables, water and metallic objects from entering the unit.
- Do not disassemble or modify the unit, as this will cause danger and malfunctioning.
- Do not use the unit when there is lightning in the vicinity and exercise special care not to allow the unit to become wet.
- Do not place heavy objects on the unit.
- Do not subject the unit to vibrations or shocks.

- Do not subject the unit to direct sunlight or place it near a heater for a long period of time, otherwise the cabinet may become deformed or the internal electronic components such as transistors may be damaged. Pay special attention to rising temperature in closed cars on hot summer days; the temperature in closed cars sometimes reaches as high as 80°C.

- Avoid using the unit under the following conditions:

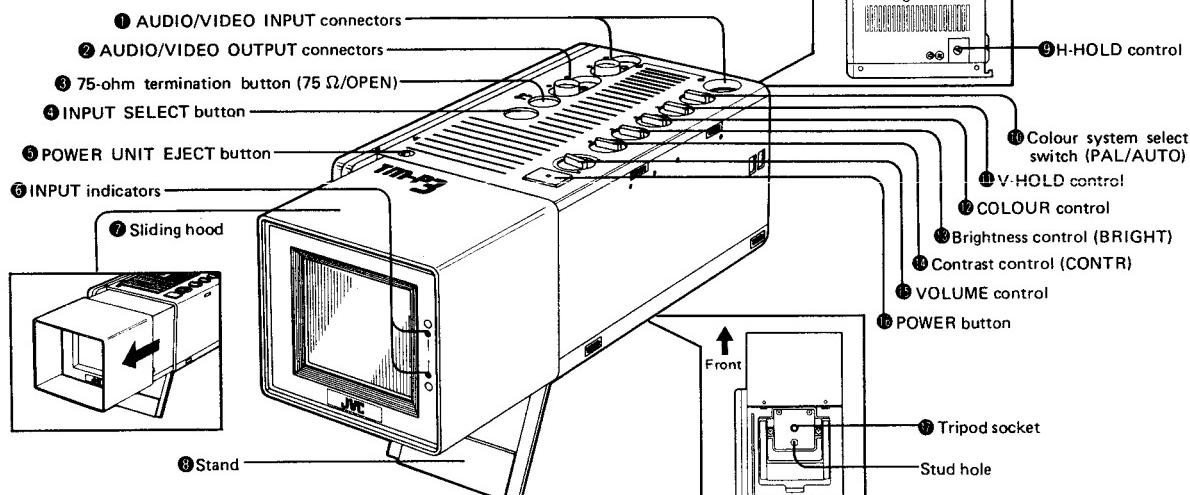
- Extremely hot or cold places
- Near appliances generating strong magnetic fields
- Places subject to excessive humidity, dust or vibrations.

- Do not use strong cleaning agents such as benzine or thinner to clean the cabinet nor spray any volatile agent such as insecticides on the cabinet. These may damage the cabinet.

- When the cabinet is extremely dusty or soiled, clean by gently wiping with a piece of soft cloth soaked in a diluted neutral cleaner.

- When cleaning the unit, be sure to unplug the AC power cords of all connected equipment.

## CONTROLS AND CONNECTORS



### ① AUDIO/VIDEO INPUT connectors

Connect two video/audio sources such as a video cassette recorder, a TV tuner or a videodisc player.

### ② AUDIO/VIDEO OUTPUT connectors

Connect a video/audio unit such as a video cassette recorder or another monitor. The input signal that is being monitored on the screen is directly bridged out to the connected unit.

### ③ 75-ohm termination button (75 Ω/OPEN)

Leave the button in its "out" position (75 Ω) when using the monitor for monitoring only. When other equipment such as a 2nd video recorder is connected to the VIDEO OUTPUT terminal for recording, be sure to press this button to OPEN.

### ④ INPUT SELECT button

Selects between the signals applied to the AUDIO/VIDEO INPUT connectors 1 and 2. (— INPUT 1 : — INPUT 2 )

### ⑤ POWER UNIT EJECT button

Push this button to remove the attached power unit.

### ⑥ INPUT indicators

The corresponding indicator lights according to the selected audio/video input 1 or 2.

### ⑦ Sliding hood

Extends forward to eliminate reflections.

### ⑧ Stand

Supports the unit on a level surface. The stand can be positioned at various angles to adjust the viewing height of the monitor, but do not push down on the monitor when the stand is erected.

### ⑨ H-HOLD control

This control has been optimally adjusted. Do not turn it except to service the unit.

### ⑩ Colour system select switch (PAL/AUTO)

The AUTO position permits both PAL and SECAM signals to be monitored. If noisy or unstable pictures should occur when monitoring PAL signals, set the switch to PAL.

### ⑪ V-HOLD control

Turn to correct a vertically rolling picture.

### ⑫ COLOUR control

⑬ Brightness control (BRIGHT)

⑭ Contrast control (CONTR)

⑮ VOLUME control

⑯ POWER button

### ⑰ Tripod socket

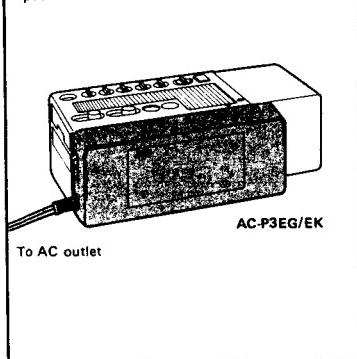
This monitor can be mounted on a tripod. When mounting it on the tripod, secure firmly. The small hole beside the tripod socket accommodates the positioning stud on the tripod.

## POWER SUPPLY SYSTEM

The convenient 3-way power supply system gives you a choice of the most appropriate power supply unit, depending on the application.

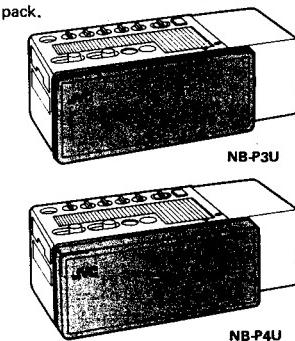
### With AC power

Use the optional AC-P3EG/EK AC power pack.



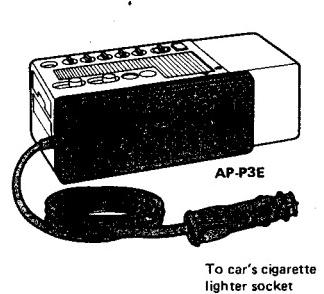
### Where AC power is not available

Use the optional NB-P3U regular battery pack or NB-P4U high-capacity battery pack.



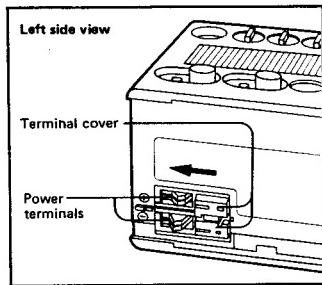
### In a car

Use the optional AP-P3E car battery adapter.



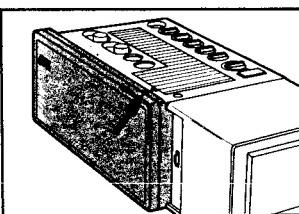
## ATTACHING & REMOVING POWER SUPPLY UNITS

- The method of attachment and removal is identical for all power supply units.
- Be sure to switch off all power switches before attachment or removal.
- Check to see if the power terminals on the side to the rear of the unit are covered with the terminal cover. If not, slide the terminal cover in the direction of the arrow.

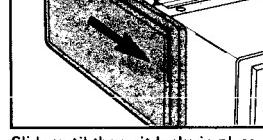


1

To attach

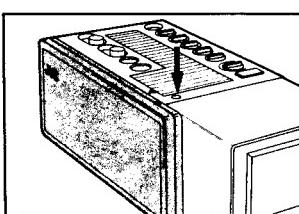


2

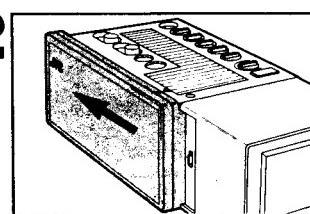


1

To remove



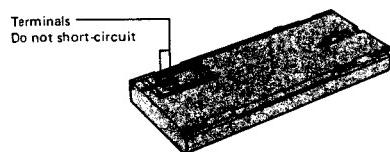
2



## CHARGING THE BATTERY PACK (OPTIONAL)

### A WORD ON THE EXCLUSIVE NB-P3U/NB-P4U BATTERY PACKS

The NB-P3U/NB-P4U are nickel-cadmium batteries. Give attention to the following to make the most of their characteristics.



#### Temperature ranges:

The recharging time is based on room temperature of 20°C. The lower the temperature, the longer the recharging time.

For charging: 10°C to 35°C

For operating: -10°C to 40°C

For storing: -10°C to 30°C

#### Caution

The terminals are exposed on the bottom of the battery pack. DO NOT short-circuit these terminals.

- If they are shorted, a great amount of current flows. This is not only very dangerous, but also makes the battery pack unusable.

- When transporting or storing the battery pack, exercise special care so that no metallic object touches the terminals.

- Always keep the terminals clean. If they become dirty, wipe them with a piece of soft cloth.

- The fully charged NB-P3U battery pack provides power to the **TM-P3** for about 1 hour 15 minutes of continuous monitoring; the NB-P4U, for about 2 hours 5 minutes.

- \* Continuous monitoring time in this case refers to the amount of time before the monitored picture starts to break up when viewing it continuously with the colour, brightness and contrast controls all adjusted to the standard setting.

The battery pack has been kept in the uncharged state for shipment. Therefore, before use, charge it.

- Avoid repeated charging.

Charging the battery pack repeatedly without using it may cause over-charging and shorten its service life.

- Recharge using only a specified charger at 10°C to 35°C.

Especially avoid recharging in a place under 10°C, as it may cause over-charging.

- After use, store in a discharged condition.

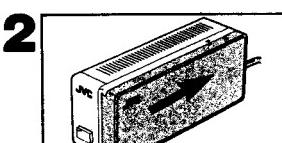
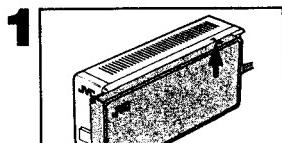
- Do not store in places of high temperatures.

Choose a dry place with temperatures between -10°C and 30°C for optimum storage.

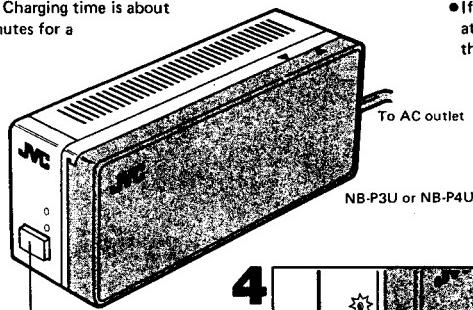
- The battery pack becomes warm immediately after being charged. This is not due to any defect.

Use the BB-P3EG/EK battery charger (optional). Charging time is about 60 minutes for a regular battery pack and 90 minutes for a high-capacity battery pack.

- The charging time differs depending on the ambient temperature and the condition of the battery pack.



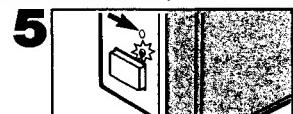
Slide until it locks in place.



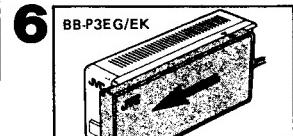
Connect to a wall outlet.



Press the POWER button. The POWER indicator will light first and the CHARGE indicator will light in a few seconds.



**Note:**  
• If the terminals on the charger are exposed, attaching the battery pack is impossible. Move the cover over the terminals by hand.



Remove the battery pack by sliding it off.

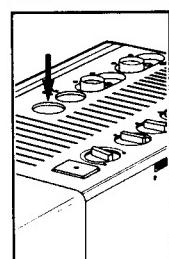
## CONNECTIONS — Input Connectors

### Input Connectors

Two audio/video sources can be simultaneously connected to this unit. Press the INPUT SELECT button to select the input signal you want to monitor.

- Instead of a video recorder other units such as a TV tuner with audio/video output terminals or a videodisc player can be connected to these AUDIO/VIDEO INPUT connectors.

#### INPUT SELECT button

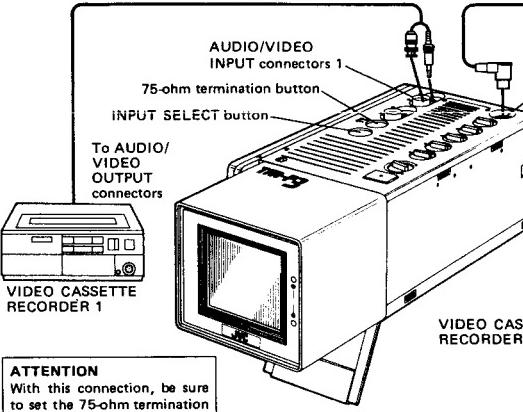


Input source 1: monitored with the button in the up position. Press the button to monitor the input source 2.

Input source 2: monitored with the button in the down position. Press the button again to monitor the input source 1.

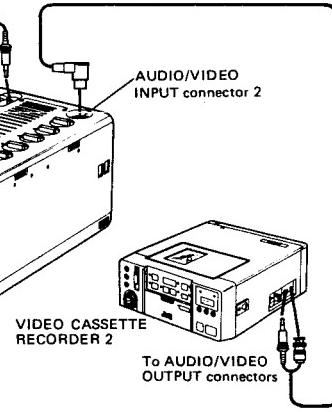
### Input Source 1

A/V cable



### Input Source 2

A/V cable (provided)



**ATTENTION**  
With this connection, be sure to set the 75-ohm termination button to the  $75\ \Omega$  position.

## CONNECTIONS — Output Connectors

### Output Connectors

The audio/video input signal that is being monitored can be directly output to a connected unit. Connect a video recorder to these AUDIO/VIDEO OUTPUT connectors for dubbing or editing.

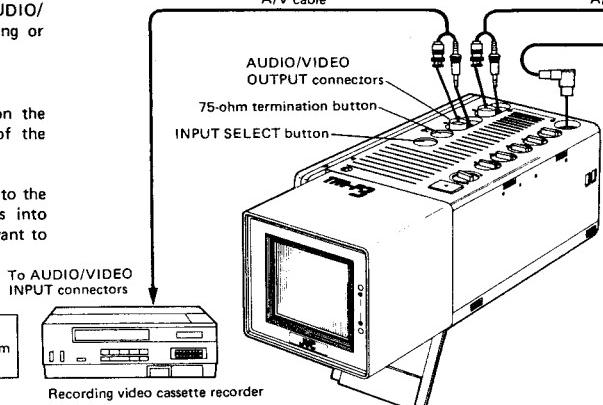
#### When dubbing

- Play back the tape to be dubbed on the video recorder connected to one of the AUDIO/VIDEO INPUT connectors.
- Monitor the playback picture.
- Engage the video recorder connected to the AUDIO/VIDEO OUTPUT connectors into the Record mode at the point you want to start dubbing.

**ATTENTION**  
With this connection, be sure to set the 75-ohm termination button to the OPEN position.

### For tape-to-tape dubbing

A/V cable



A/V cable

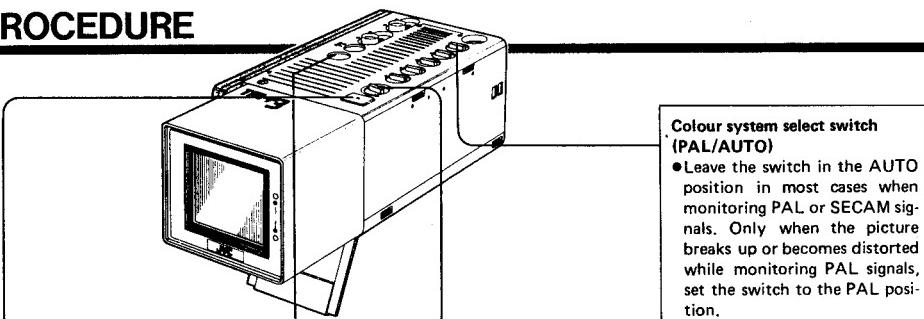
To AUDIO/VIDEO OUTPUT connectors



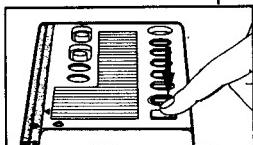
## OPERATION PROCEDURE

### Preparation

- Attach a battery pack. (See page 6.)
- Connect to a video recorder or another audio/video source. (See page 9.)

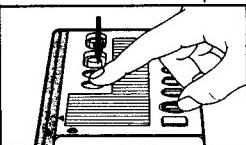


**1**



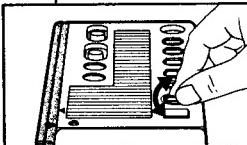
Press the POWER button ON.  
(One of the INPUT indicators will light.)

**2**



Press the INPUT SELECT button to obtain the input source you wish to monitor. (The INPUT indicator corresponding to the selected source will light.)

**3**



Adjust the VOLUME control.

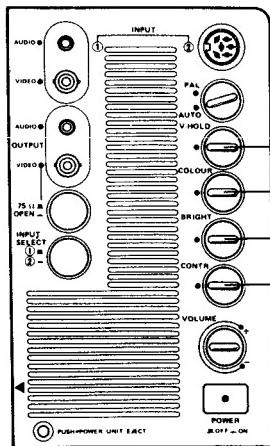
### Colour system select switch (PAL/AUTO)

- Leave the switch in the AUTO position in most cases when monitoring PAL or SECAM signals. Only when the picture breaks up or becomes distorted while monitoring PAL signals, set the switch to the PAL position.

### Notes

- If the picture starts to break up due to insufficient voltage, do not continue viewing, but recharge the battery pack or replace it with a fully charged one.
- Recharging the battery pack before it fully discharges will prolong its service life.

### Picture adjustments



Colour, brightness and contrast are at standard settings when their control knobs are in central detente position.

<b>1 V-HOLD control</b> Turn clockwise or counterclockwise to stop vertical rolling of the picture.
<b>2 Colour control</b> Turn until preferred degree of colour is obtained. Clockwise: darker Counterclockwise: lighter
<b>3 Brightness control</b> Turn until the picture is not too light or too dark. Clockwise: brighter Counterclockwise: darker
<b>4 Contrast control</b> Turn until the picture is comfortable to view. Clockwise: higher contrast Counterclockwise: lower contrast

## IN CASE OF DIFFICULTY

Symptoms	Check points
No power	<ul style="list-style-type: none"> <li>• Is the power supply unit correctly installed?</li> <li>• Is the battery pack charged?</li> <li>• Is the POWER switch of the connected AC power pack set to ON?</li> <li>• Is the car battery adapter correctly plugged in?</li> </ul>
No picture, no sound	<ul style="list-style-type: none"> <li>• Are the cables correctly connected to the input connectors?</li> <li>• Is the INPUT SELECT button set correctly?</li> <li>• Is VOLUME control set to "-?"</li> <li>• Is the audio output level of the connected external unit too low?</li> </ul>
Wrong colour	<ul style="list-style-type: none"> <li>• Is COLOUR control correctly adjusted?</li> </ul>

## SPECIFICATIONS

### TM-P3E

Type	: Colour video monitor
Colour system	: PAL/SECAM
Picture tube	: 3"
Power requirement	: 110 – 240 V AC~, 50/60 Hz (via exclusive AC power pack AC-P3EG/EK) 12 V DC --- (exclusive battery pack NB-P3U or NB-P4U)
Power consumption	: 7.4 watts (with DC)
Video input	: 1 Vp-p, 75 ohms
Video output	: 1 Vp-p (Bridged output)
Audio input	: -6 dBs, 47 k-ohms (high impedance)
Audio output	: -6 dBs (Bridged output)
Built-in speaker	: 4 cm round, 14 Ω
Speaker output	: 170 mW
Dimensions	: 96 mm(W) x 79 mm(H) x 234 mm(D)
Weight	: 1.2 kg
Accessories	: DIN (6-pin) – BNC/MINI (3.5φ) cable

Design and specifications subject to change without notice.

## TABLE OF CONTENTS

<b>1. DISASSEMBLY</b>	
1.1 HOOD .....	1-1
1.2 TOP CABINET .....	1-1
1.3 CRT .....	1-1
1.4 BOTTOM COVER .....	1-1
1.5 CIRCUIT BOARD ACCESS .....	1-1
1.6 WIRE CLAMPS AND BANDS .....	1-1
<b>2. ALIGNMENT PROCEDURE</b>	
2.1 B1 VOLTAGE (11 V) .....	2-1
2.2 PURITY .....	2-1
2.3 FOCUS .....	2-2
2.4 CONVERGENCE .....	2-2
2.5 WHITE BALANCE .....	2-3
2.6 PAL COLOUR CIRCUIT .....	2-3
2.7 SECAM COLOUR CIRCUIT .....	2-4
2.8 SUB CONTRAST AND SUB BRIGHTNESS .....	2-4
2.9 V. HEIGHT AND V. CENTER .....	2-4
2.10 H. CENTER & H. HOLD .....	2-4
<b>3. REPACKING</b> .....	3-1
<b>4. EXPLODED VIEWS AND PARTS LIST</b>	
4.1 SAFETY PRECAUTION .....	4-1
4.2 SCREW/WASHER/E-RING CODING .....	4-1
4.3 GENERAL ASSEMBLY .....	4-2
<b>5. DIAGRAMS AND CIRCUIT BOARDS</b>	
5.1 BLOCK DIAGRAM .....	5-1
5.2 SCHEMATIC DIAGRAM .....	5-2
5.3 CIRCUIT BOARDS .....	5-3
<b>6. ELECTRICAL PARTS LIST</b>	
6.1 CHROMA, HOR P.W.B. ASS'Y .....	6-1
6.2 VIDEO & CHROMA P.W.B. ASS'Y .....	6-3
6.3 AUDIO, POWER & VERTICAL P.W.B. ASS'Y .....	6-4
6.4 POWER REG P.W.B. ASS'Y .....	6-5
6.5 INPUT SELECT IND P.W.B. ASS'Y .....	6-5

## SECTION 1 DISASSEMBLY

### 1.1 HOOD

- 1) Remove two screws (A).
- 2) As viewed from the front, a latching tab is contained at the upper left. Remove the hood while raising this portion upward.

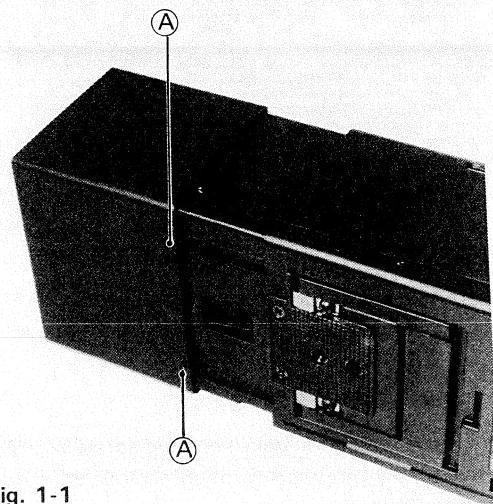


Fig. 1-1

### 1.2 TOP CABINET

- 1) Take out four screws (A).
- 2) Use a screwdriver to press latching tabs (B). Press right side of the cabinet and remove upward.

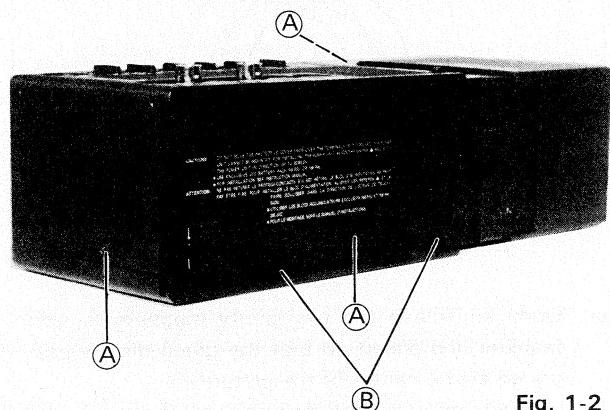


Fig. 1-2

### 1.3 CRT

- 1) Remove two screws (A).

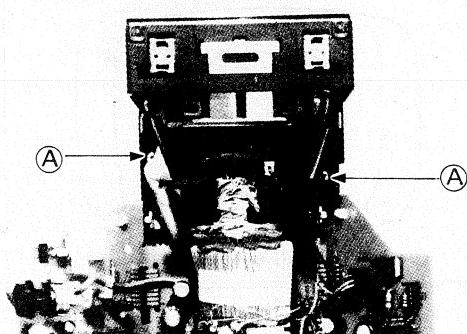


Fig. 1-3

### 1.4 BOTTOM COVER

- 1) Remove two screws (A).

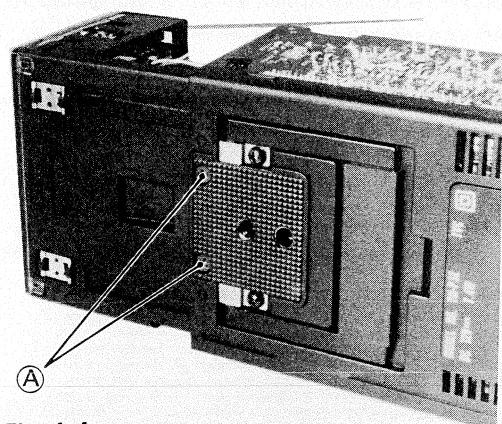


Fig. 1-4

### 1.5 CIRCUIT BOARD ACCESS

- 1) Remove the top cabinet and bottom cover.
- 2) Disengage the circuit boards of the sides from the rivets. The boards can then be opened outward as shown in the Fig. 1-5.

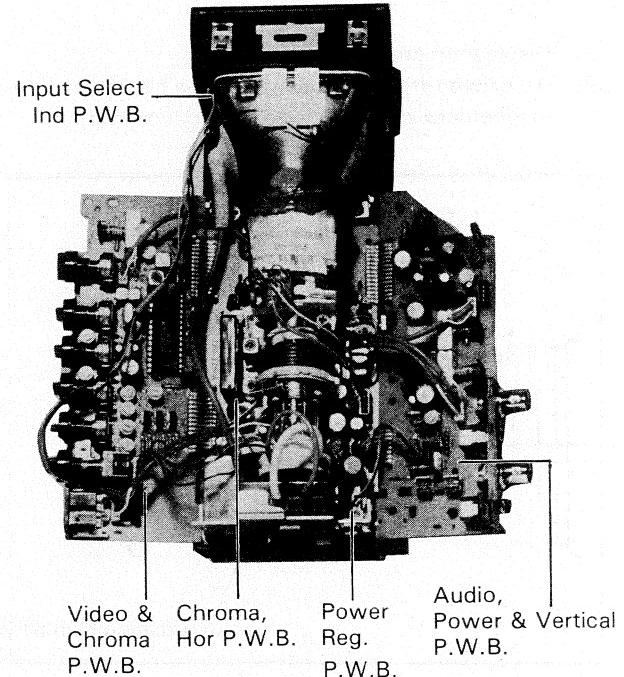


Fig. 1-5

### 1.6 WIRE CLAMPS AND BANDS

- 1) Observe that wire clamps are returned to their original positions.
- 2) Avoid removing the wire bands. If unavoidable be sure to reband in original manner using insulated tying material.

## SECTION 2 ALIGNMENT PROCEDURE

### 2.1 B1 VOLTAGE (11 V)

Cut off the bright VR (R222) and sub bright VR (R221). Measure the voltage between TP-91 of the MAIN PWB Ass'y and ground. Adjust R905 (B1) to obtain 11 V. See Fig. 2-1.

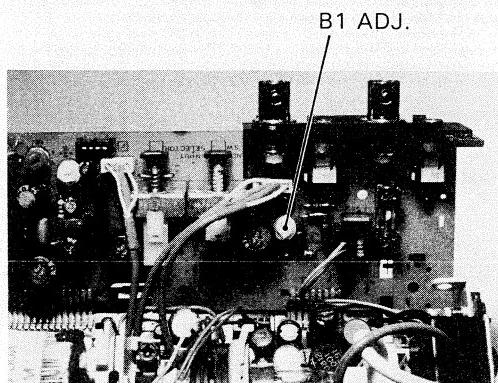


Fig. 2-1

### 2.2 PURITY

- 1) Display a monochrome pattern.
- 2) As viewed from the back (See Fig. 2-2), turn the magnet lock counter-clockwise to loosen it.

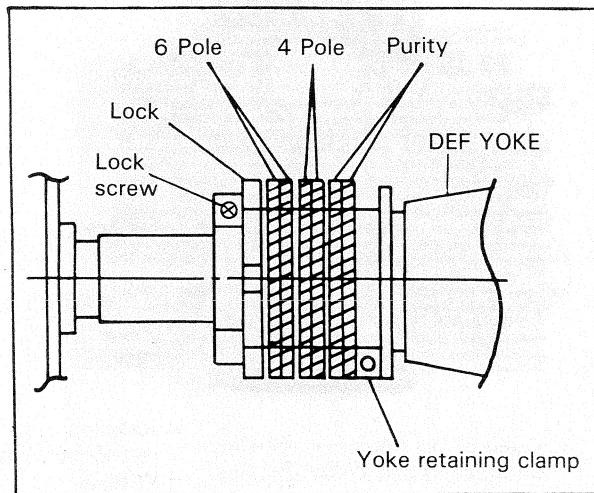


Fig. 2-2

- 3) Turn the green cutoff VR (R705) fully clockwise and the red and blue cutoff VRs (R706, R704) fully counter-clockwise. Adjust the screen VR (Fig. 2-6) so that the vertical green band becomes easy to see.

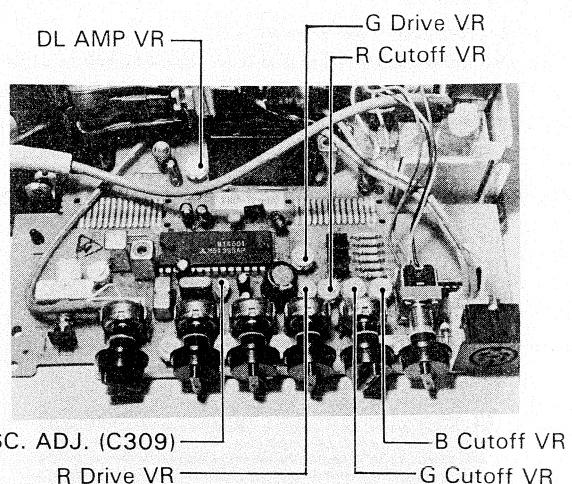


Fig. 2-3

- 4) Loosen the deflection yoke securing screw and slide the yoke fully rearward to obtain colour shading in the green disk.
- 5) Overlap the two purity magnet tabs and set them to 12 o'clock position.

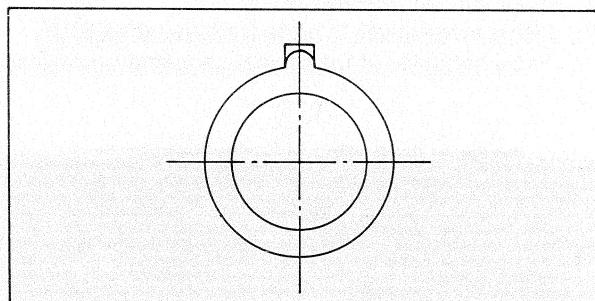


Fig. 2-4

- 6) Open and close the two purity magnets (scissor fashion) and adjust so that the green disk is positioned at the center of the picture. If green disk is not obtained, adjust for uniform overall colouration.

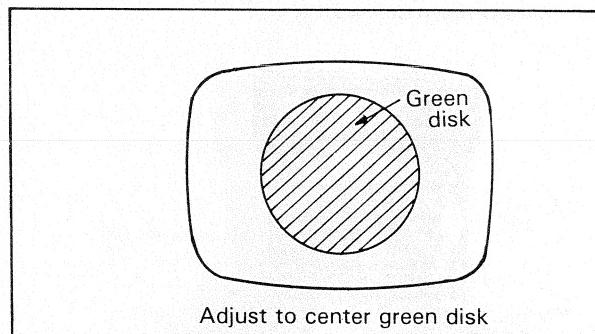


Fig. 2-5

- 7) Slide the deflection yoke forward and adjust its position so that the green colour completely fills the picture area.
- 8) Confirm that uniform overall rasters of both red and blue single colour rasters can also be obtained in the same manner.
- 9) Without moving the deflection yoke, tighten its securing screw. Tighten the magnet lock lightly.

### 2.3 FOCUS

Turn focus VR and adjust for the range of optimum overall picture focus. Within this range, set the VR to the most clockwise position. Also confirm that focus is obtained with a dark picture.

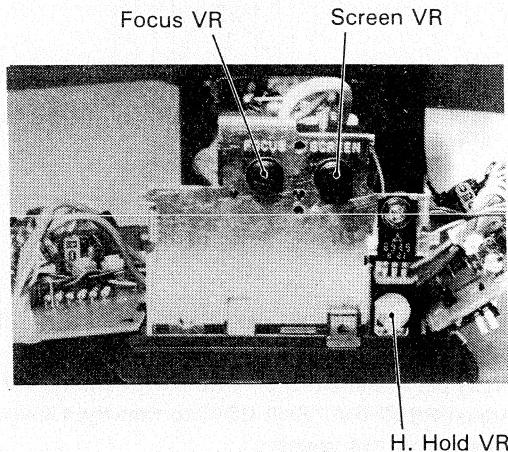


Fig. 2-6

### 2.4 CONVERGENCE

**Note:** Focus adjustment must be completed

#### A. Static convergence (center)

- 1) Employ a crosshatch pattern and adjust the brightness so that the image is clear, but slightly darkened.
- 2) Turn the red and blue cutoff VRs fully clockwise and the green cutoff VR fully counter-clockwise. Adjust the screen VR for an easily seen image. (See Fig. 2-3).
- 3) Adjust convergence roughly in the corner by tilting the deflection yoke vertically or horizontally, then insert a wedge between the yoke and CRT on top. (Fig. 2-9).

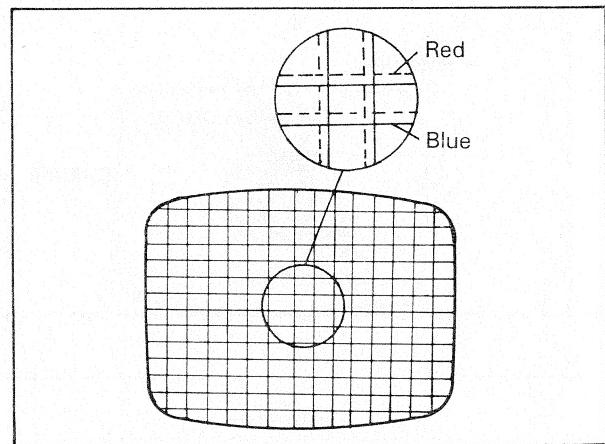


Fig. 2-7

- 4) Turn the two 4 pole convergence magnets and adjust so that red and blue become overlapped throughout the picture area to yield magenta. (Fig. 2-7).
- 5) Turn the green cutoff VR full clockwise and adjust the two 6 pole convergence magnets so that the green and magenta become overlapped throughout the picture area to yield white. (Fig. 2-8).
- 6) Repeat steps 4 and 5.

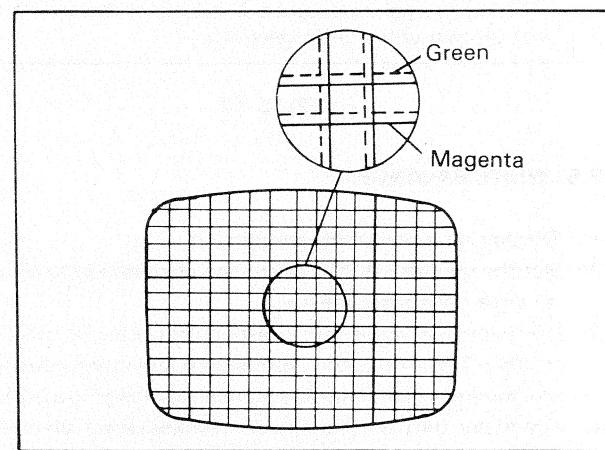


Fig. 2-8

#### B. Dynamic convergence (corner)

- 1) Remove the wedge.
- 2) Adjust convergence as shown in Fig. 2-10 by tilting the yoke up and down, then insert the wedge on top.
- 3) Apply (modeler's) glue on the wedges and magnets to fix.
- 4) Tighten the screw of the yoke.
- 5) Turn the magnet lock and tighten securely.

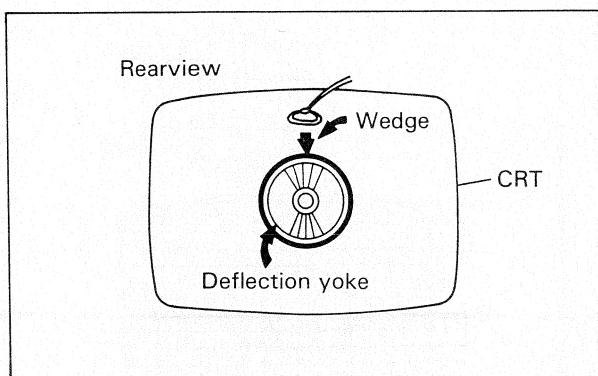


Fig. 2-9

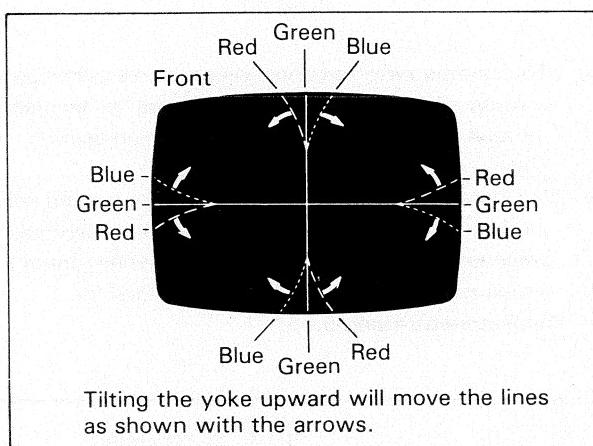


Fig. 2-10

## 2.5 WHITE BALANCE

- 1) Display a monochrome pattern.
- 2) Set the switch SW203 to service position to obtain a single horizontal line.
- 3) Turn the red, blue and green cutoff VRs (R704, R705, R706) and the screen VR fully counter-clockwise to eliminate luminance. (see Fig. 2-3).
- 4) Gradually turn the screen VR clockwise to where single line of one of the colours appears.
- 5) Turn the cutoff VR of this colour clockwise about 10 degrees.
- 6) Again turn the screen VR so that this colour appears only faintly.
- 7) Adjust the other cutoff VRs so that the horizontal line becomes white.
- 8) Return the service lead to the normal position.
- 9) With a dark picture, perform fine adjustment to obtain optimum white balance.
- 10) With a bright picture, adjust the red and green drive VRs for optimum white balance.

**Note:** If vertical jittering occurs when the switch SW203 is set to the service position, short the No. 1 pin (green wire) of the deflection yoke to

the ground by jump wire. Remove the jump wire before setting the switch to the normal position when this adjustment completed.

## 2.6 PAL COLOUR CIRCUIT

- 1) Supply PAL colour bar signal to the line in connector.
- 2) Connect an oscilloscope to M4 (B-Y demod. output) with channel 1 (X axis), and to M3 (R-Y demod. output) with channel 2 (Y axis), and set both channels for 10mV/DIV.
- 3) Set the oscilloscope to X-Y mode so that the Lissajous figure appears.

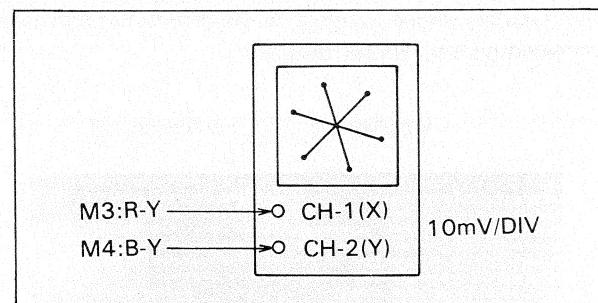


Fig. 2-11

- 4) Supply 11 V DC to pin 26 of IC301 through 47 k ohm resistor from +B line.
- 5) Short pin 4 and pin 5 of IC301 with a jump wire.
- 6) Adjust R302 (PAL SUB COL) so that the Lissajous figure is not saturated.
- 7) Adjust T302 (CW TRANSF) for the minimum figure.
- 8) Adjust R321 (DL AMP) so that the figure becomes (B) from (A).

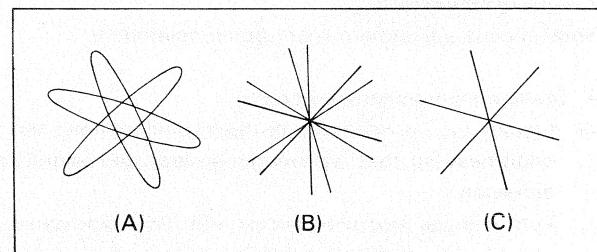


Fig. 2-12

- 9) Adjust T303 (DL P. TRANSF) so that the figure becomes (C) from (B).
- 10) Adjust C309 (OSC ADJ) so that the rolling colour stripes becomes thick and the rolling slows or stops.

## 2.7 SECAM COLOUR CIRCUIT

Note : PAL colour adjustment must be completed.

- 1) Supply SECAM colour bar signal.
- 2) Connect an oscilloscope to pin 27 of IC302.
- 3) Adjust T304 (BEL TRANSF) for the flat waveform as shown in Fig. 2-13 (B).

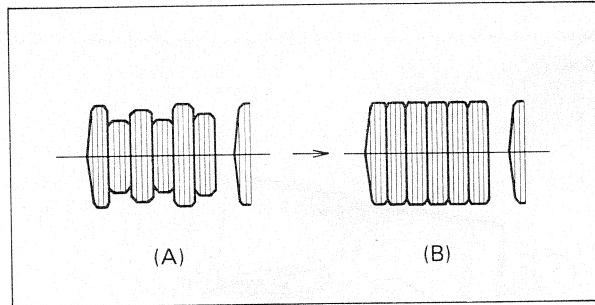


Fig. 2-13

- 4) Connect a digital voltmeter to pin 26 of IC302.
- 5) Adjust T305 (IDENT TRANSF) for the maximum DC voltage (about 8.5 V DC).
- 6) Adjust T306 (DISCRIM) and T307 (DISCRIM) so that the white bar becomes the same as when AUTO/PAL switch is set to PAL position.

## 2.8 SUB CONTRAST AND SUB BRIGHTNESS

Display a picture and set the front panel contrast and brightness controls to the center click positions. Adjust R216 (subcontrast) and R221 (sub-brightness) of the main board for optimum display.

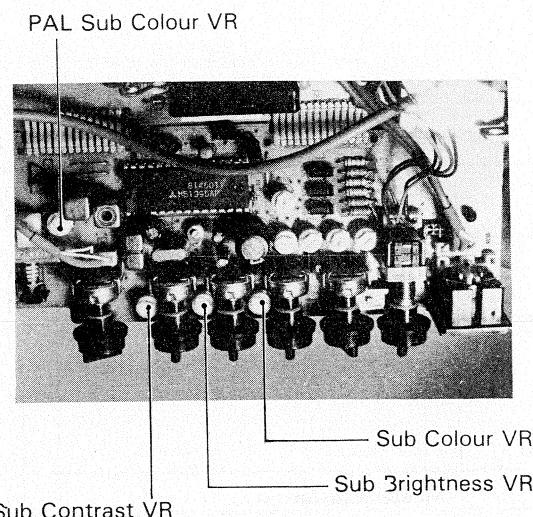


Fig. 2-14

## 2.9 V. HEIGHT AND V. CENTER

Display a pattern which allows easy confirmation of symmetry (such as a circle or crosshatch). Adjust R407 (V. height) for optimum size relationships. Turn R410 (V.center) to adjust picture center.

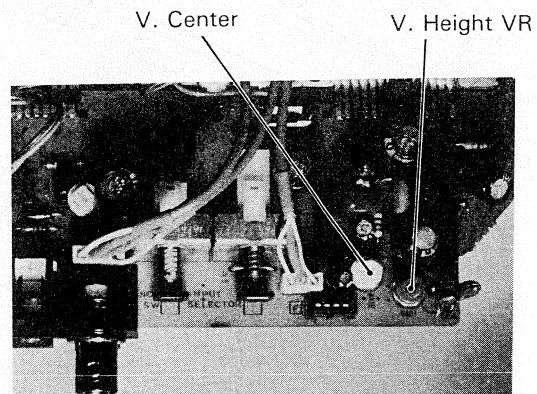


Fig. 2-15

## 2.10 H. CENTER & H. HOLD

- 1) Display a monochrome pattern. Set H. center switch (S501) to the optimum horizontal picture position.
- 2) Turn H. hold VR counterclockwise when the picture is slanting to the right and clockwise when slanting to the left. (see Fig. 2-6).

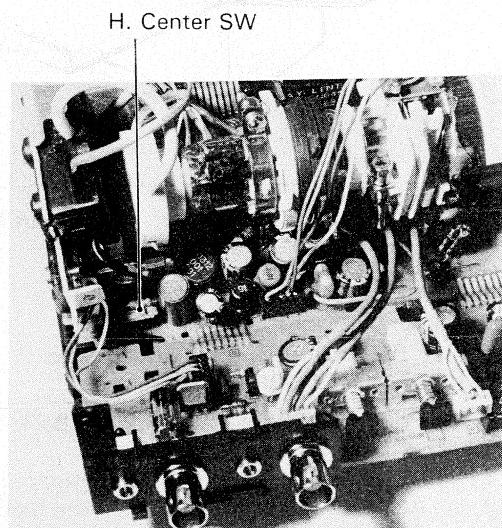
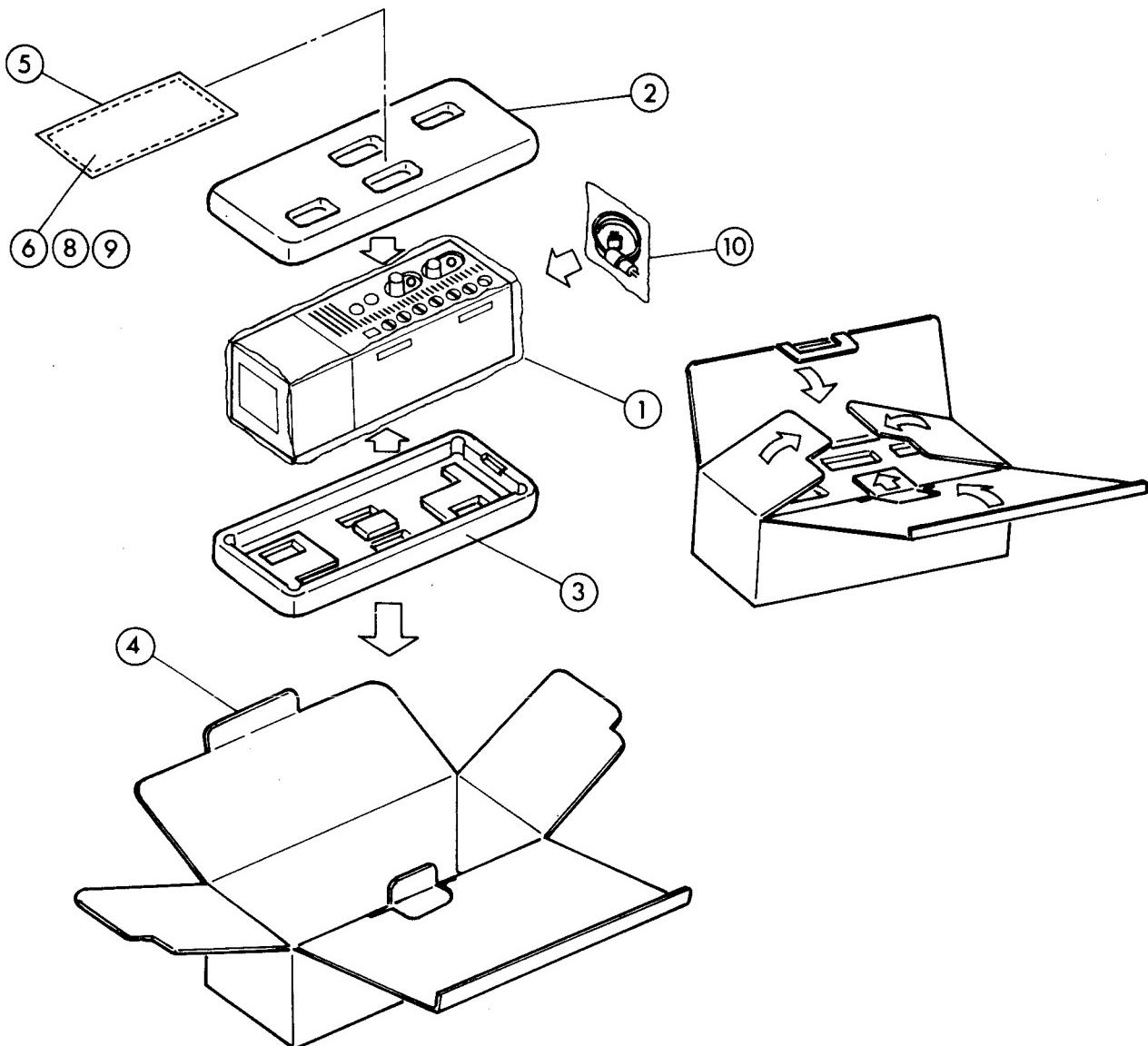


Fig. 2-16

## SECTION 3 REPACKING



Symbol No.	Part No.	Part Name	Description	Q'ty
1	CP30043-A02	Set Cover	for Set	1
2	CP10183-001	Cushion		1
3	"	"		1
4	CP10182-A03	Packing Case		1
5	CM30751-008	Envelope	Incl. (6) - (9)	1
6	PU30425-506	Instruction Book		1
7	-	-		-
8	A76332-2	Customer Notice		1
9	A29639	REC Keeping Card		1
10	CE40392-00A	6P Din/BNC Cable		1
11	CP10070-008	Packing Case	Master Carton	1

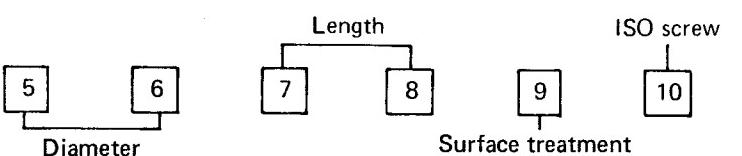
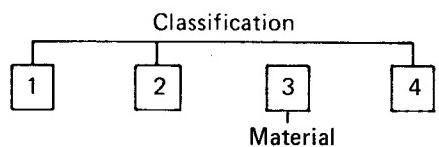
## SECTION 4

### EXPLODED VIEWS AND PARTS LIST

#### 4.1 SAFETY PRECAUTION

Parts identified by the  symbol are critical for safety. Replace only with specified part numbers.

#### 4.2 SCREW/WASHER/E-RING CODING



Classification (first digit)

Symbol Letter	Name
S	Normal screw
N	Assembly screw
L	"
D	"
M	Wood screw
F	Feather screw
T	Set screw
Y	"
B	Bolt
N	Nut
W	Washer
R	E-ring
E	Eyelet
P	Spring
G	Washer head screw

Material (third digit)

Symbol Letter	Material
S	Steel
E	Stainless steel
C	Cast iron
U	Bronze
B	Brass
P	Phosphor bronze
N	German silver
Y	Brass
A	Aluminum
Z	Zinc alloy
K	Polycarbonate

Surface Treatment (ninth digit)

Symbol Letter	Surface Treatment
Z	Galvanization, dichromic acid treatment (MFZn2-C)
N	Nickel plating (MFNi2, MFNi1)
R	Chrome plating (MBCr2, MBCr1)
G	Silver plating (SP4)
W	Nichrome platings
P	Phosphite treatment
B	Bronze plating

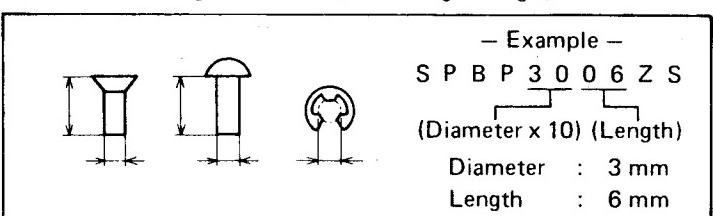
Shape of Screw Head (second digit)

Symbol Letter	Shape of Screw Head	
P		Pan head
S		Flat countersunk head
H		Oval countersunk head
D		Binding head
R		Round head
B		Round head
T		Truss head

Type of Screw (fourth digit)

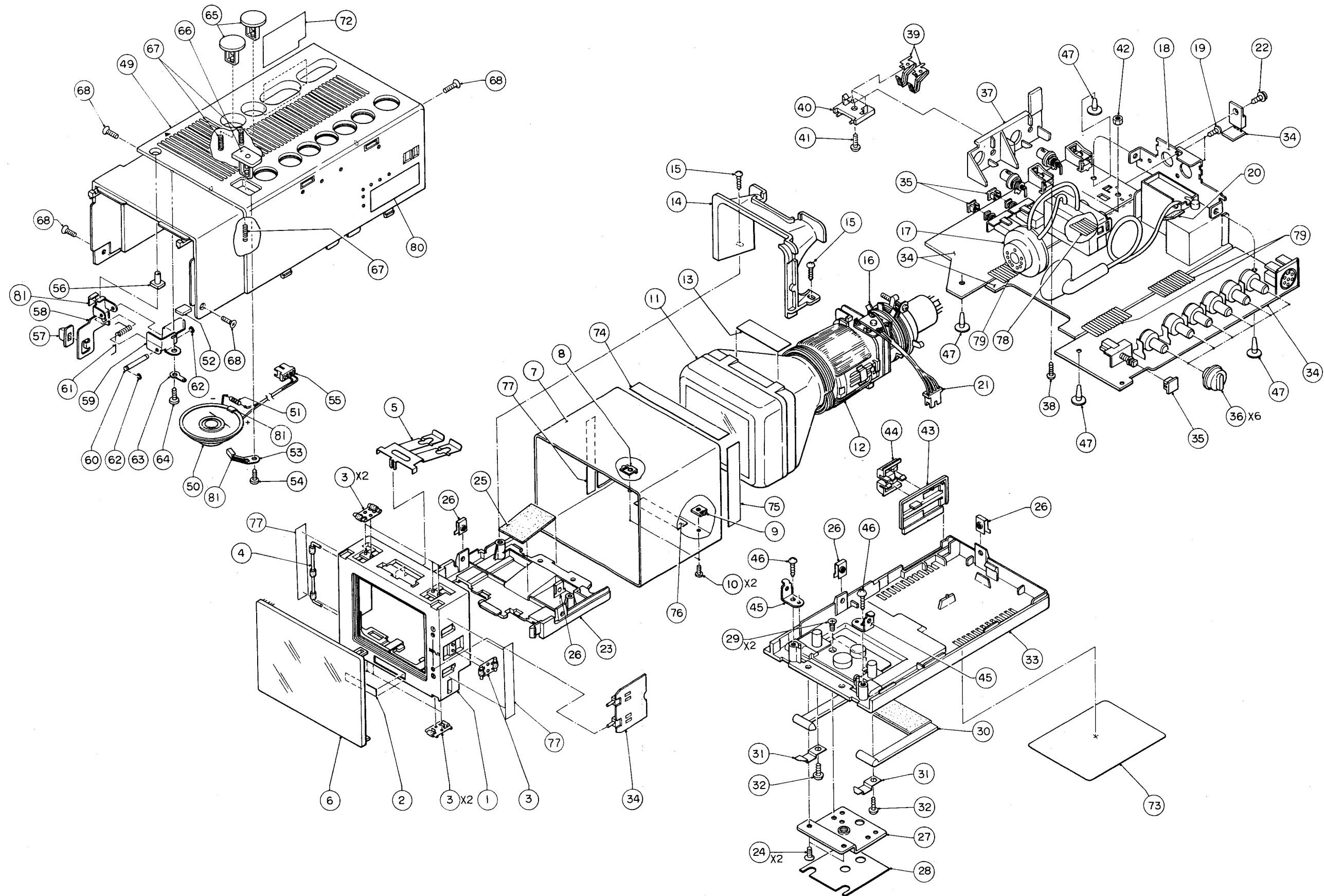
Symbol Letter	Type of Screw
P	Cross-Recessed head screw
A	Tapping screw
B	Special tapping screw
T	Special tapping screw
E	Special tapping screw
F	Special tapping screw

Diameter and Length of Screw (fifth – eighth digit)



Symbol Letter	Surface treatment
M	Black coloring after galvanization
A	Red coloring after galvanization
C	Blue coloring after galvanization
T	Green coloring after galvanization
V	Violet coloring after galvanization
F	Iron with black coloring

**4.3 GENERAL ASSEMBLY**



### SAFETY PRECAUTION

Parts identified by the  $\triangle$  symbol are critical for safety.  
Replace only with specified part numbers.

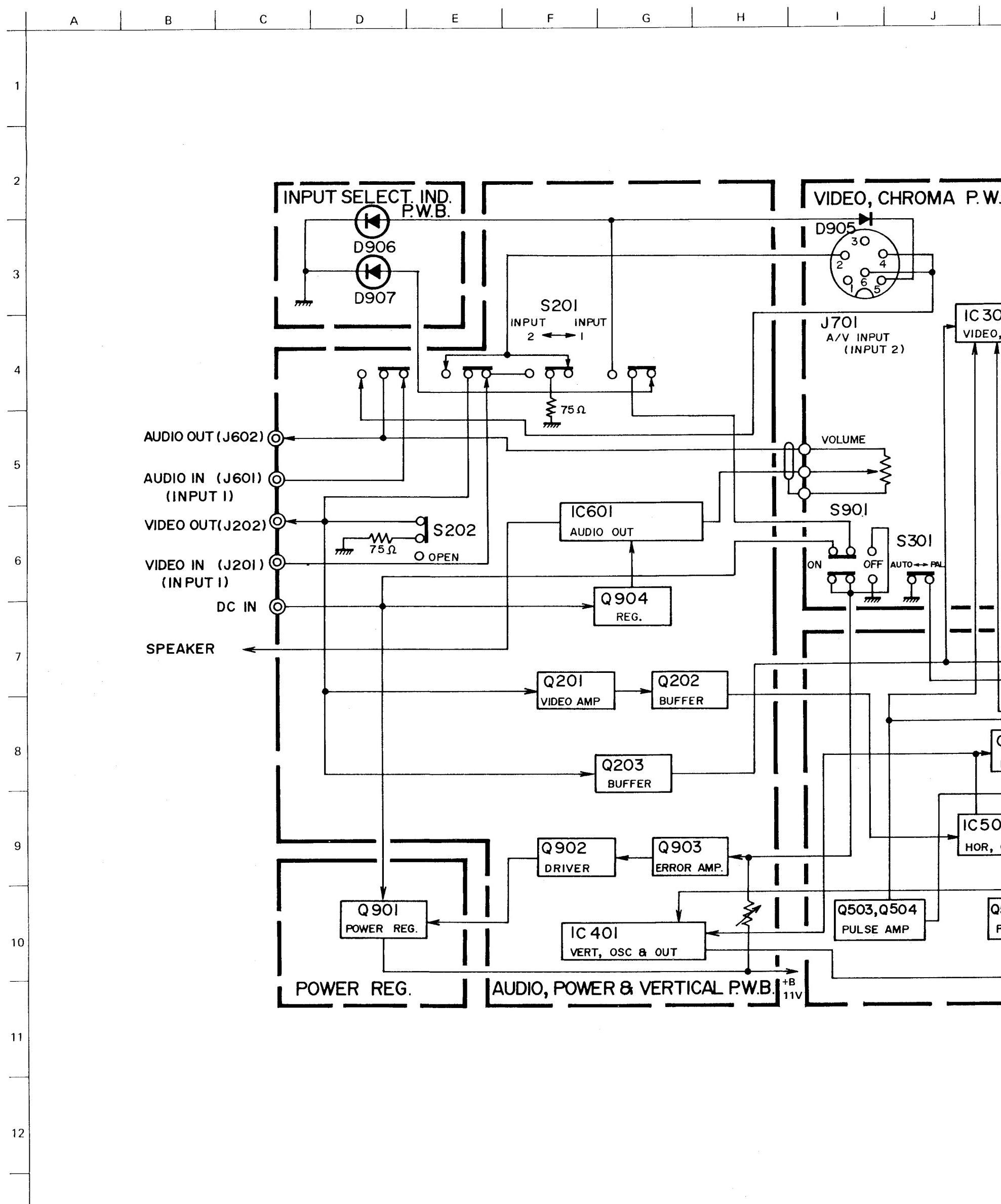
#### 4.3 GENERAL ASSEMBLY PARTS LIST

Symbol No.	Part No.	Part Name	Description	Q'ty
$\triangle$ 1	CM20272-003	Front Panel		1
2	CM41318-001	Brand Mark		1
3	CM41220-A0A	Roller Ass'y (A)		5
4	CM41221-A0A	" (B)		1
5	CM41319-001	Earth Plate		1
6	CM30639-A01	Protector Glass		1
7	CM30641-A01	Hood		1
8	CM41238-A0A	Stopper Ass'y		1
9	CM41238-A0B	"		1
10	SPSK1728M	Mini Screw		2
$\triangle$ 11	85XB22	CRT		1
$\triangle$ 12	CE20013-00A	Deflection Yoke		1
13	CM30768-003	Stick Sheet		1
$\triangle$ 14	CM30636-001	CRT Holder		1
15	SDSA3012Z	Tap Screw		2
$\triangle$ 16	CE30067-00A	PC Magnet		1
$\triangle$ 17	C39158-E-SA	CRT Socket		1
18	CM30637-A0A	Heat Sink Ass'y		1
19	SBSB2606Z	Tap Screw		2
20	CM41543-001	Earth Tape		1
21	CH40590-00A	Connector Ass'y		1
22	SDSP3008Z	Tap Screw		1
23	CM20273-002	CRT Base		1
24	SSSP3008M	Screw		2
25	CM41096-002	Rubber Cushion		1
26	CM41237-001	Tap Plate		4
27	CM41320-001	MT Bracket		1
28	CM41321-001	MT Sheet		1
29	SSSP3004Z	Screw		2
30	CM30634-A0A	Stand Ass'y		1
31	CM41323-001	Stand Holder		2
32	SBSB3008M	Screw		2
$\triangle$ 33	CM10165-00B	Bottom Cover Ass'y		1
34	—	Main Board Ass'y		1
35	CM40943-001	Spacer	See Sec. 6 (14 $\Omega$ )	3
36	CM41240-A01	VR Knob		6
37	CM30750-00A	Jack Panel		1
38	SBSB2610Z	Tap Screw		1
39	CM41329-A01	Terminal		2
40	CM41338-001	Supportor		1
41	SDSP3006M	Screw		1
42	NNZ3000Z	Nut		1
43	CM41337-001	Side Cover		1
44	PU33572-1	Terminal Cover		1
45	CM41327-A01	L Bracket		2
46	SBSB3008Z	Tap Screw		2
47	CM41446-001	Canoe Clip		4
48	—	—		—
$\triangle$ 49	CM10166-A0C-M0	Top Cover Ass'y		1
50	EAS-4P104S	Speaker		1
51	A76560-33	Peaking Coil		1
52	CM30768-002	Stick Sheet		1
53	CM41336-A01	Speaker Bracket		1
54	SBSB3008Z	Tap Screw		1
55	CH40565-00A	Connector Ass'y		1
56	CM41330-001	Knob		1
57	CM41331-A01	Lock Knob		1
58	CM41332-A01	Lock Bracket		1
59	CM41333-001	Support Bracket		1

Symbol No.	Part No.	Part Name	Description	Q'ty
60	CM41334-001	Pin		1
61	CM41335-001	Spring		1
62	REE1500	E Ring		2
63	A76382-A	Lug		1
64	SBSB3008Z	Tap Screw		1
65	CM41230-A01	Push Knob		2
66	CM41328-A01	Power Knob		1
67	CM41233-001	Spring		3
68	SSSP2606M	Screw		4
69	—	—		—
70	—	—		—
71	—	—		—
72	CM41510-001	Caution Label		1
73	CM30640-003	Rating Plate		1
74	CM41618-001	Slide Sheet		1
75	" -002	"		1
76	" -003	"		1
77	" -004	"		3
78	CE40307-001	FPC Jumper	(8P)	1
79	" -002	"	(14P)	3
80	CM41684-001	Label		1
81	CM30768-008	Stick Sheet		3

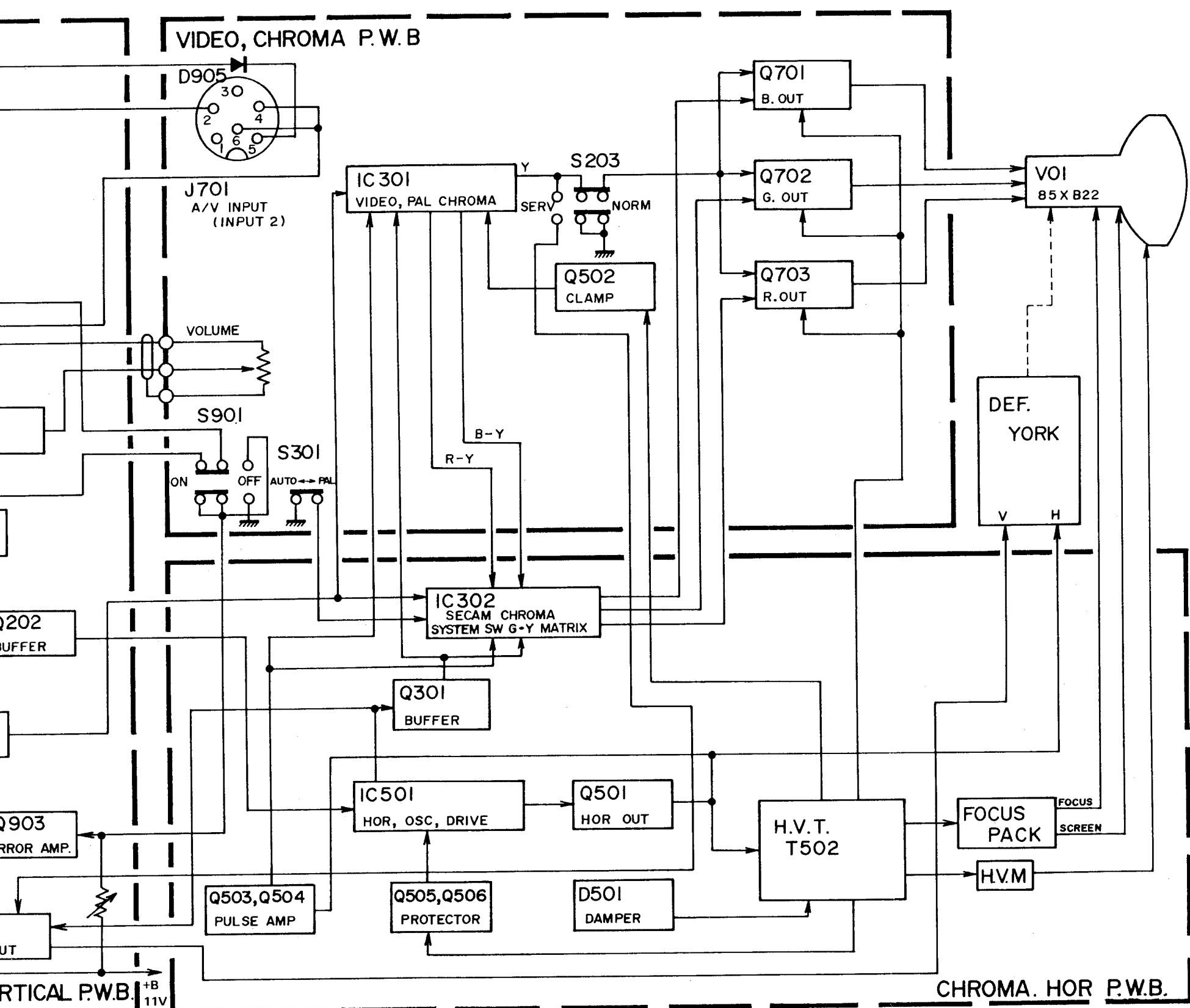
**SECTION 5**  
**DIAGRAMS AND CIRCUIT BOARDS**

**5.1 BLOCK DIAGRAM**

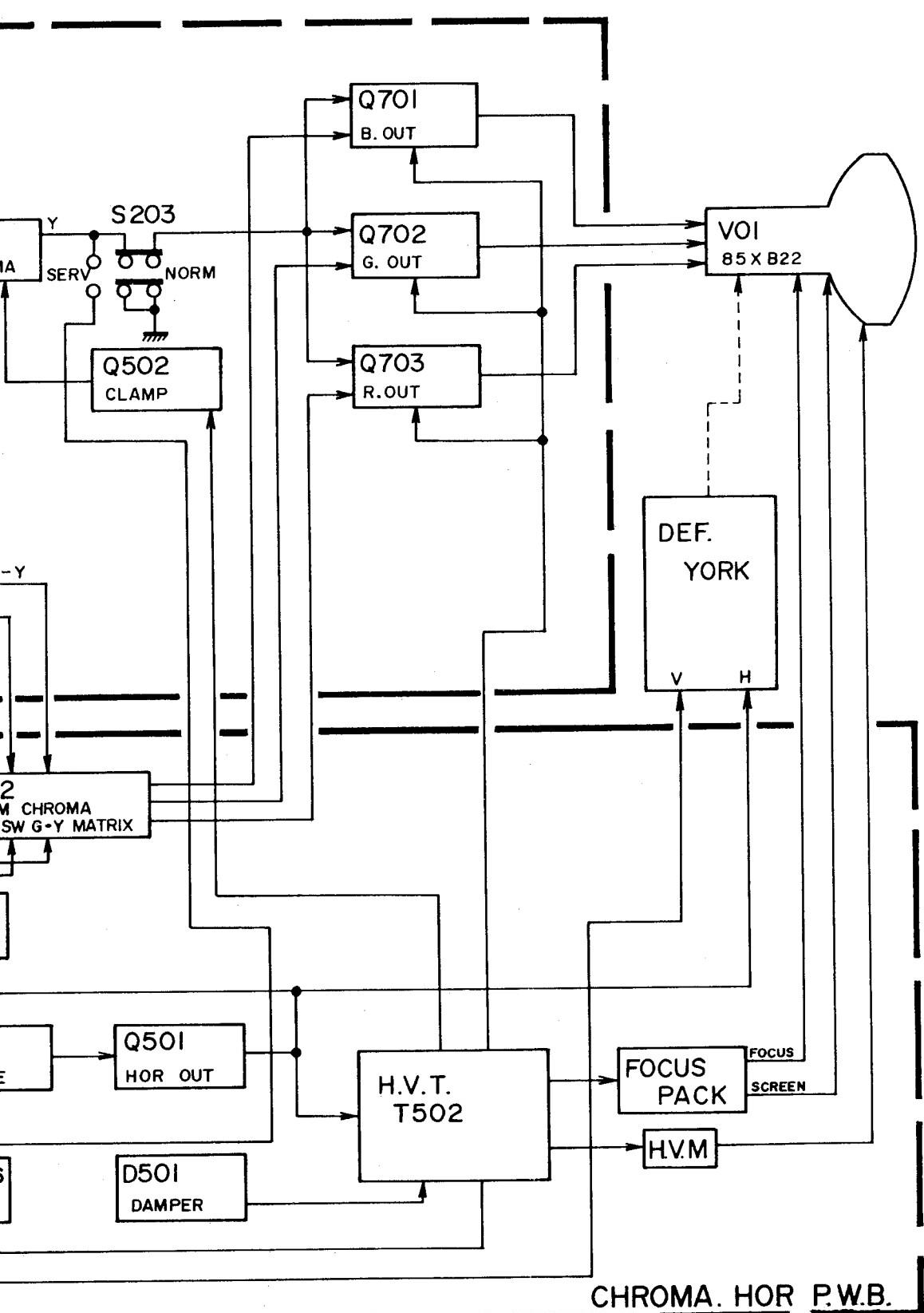


**SECTION 5**  
**DIAGRAMS AND CIRCUIT BOARDS**

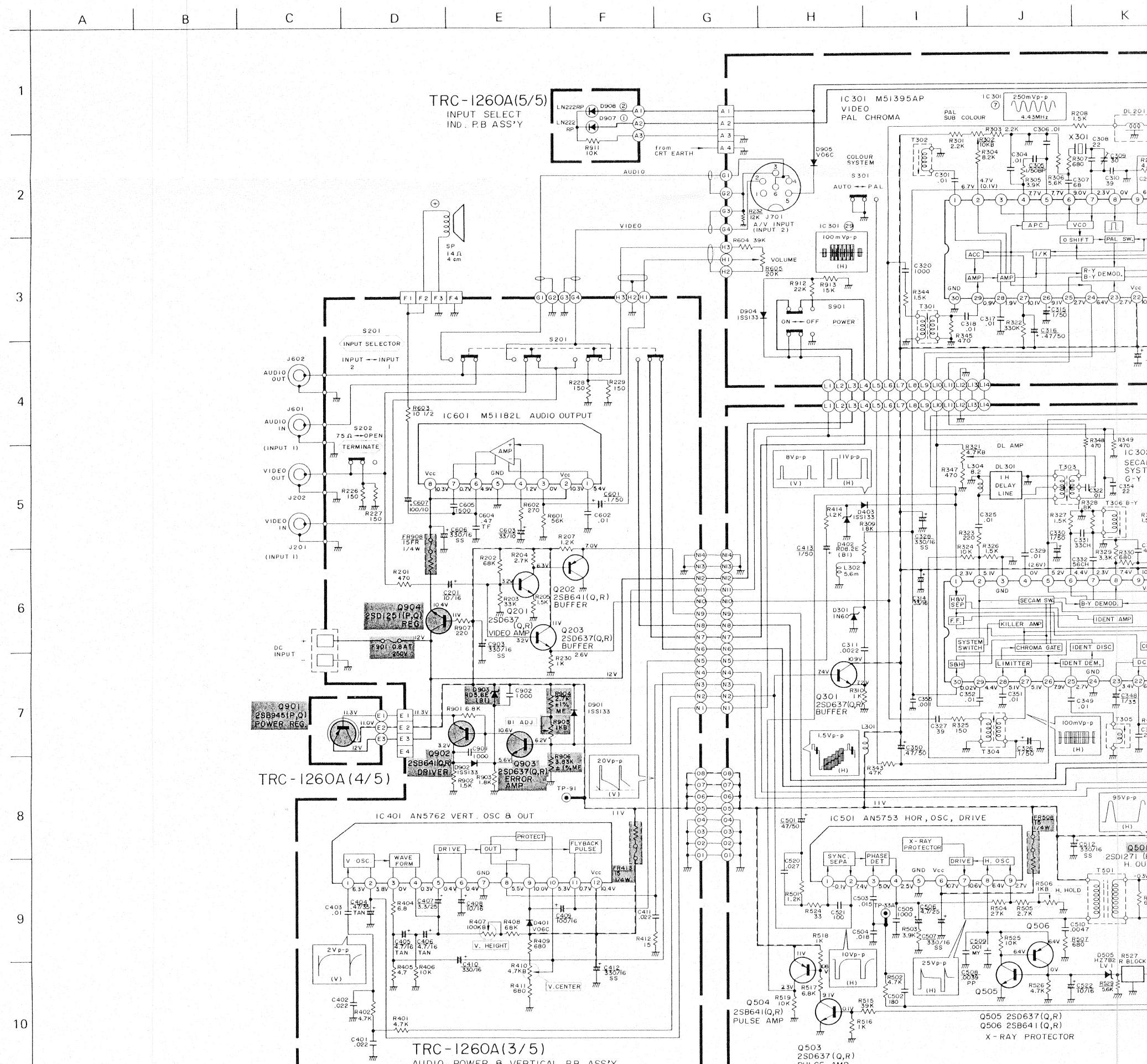
H | I | J | K | L | M | N | O | P | Q | R



L | M | N | O | P | Q | R |



## 5.2 SCHEMATIC DIAGRAM



### NOTE

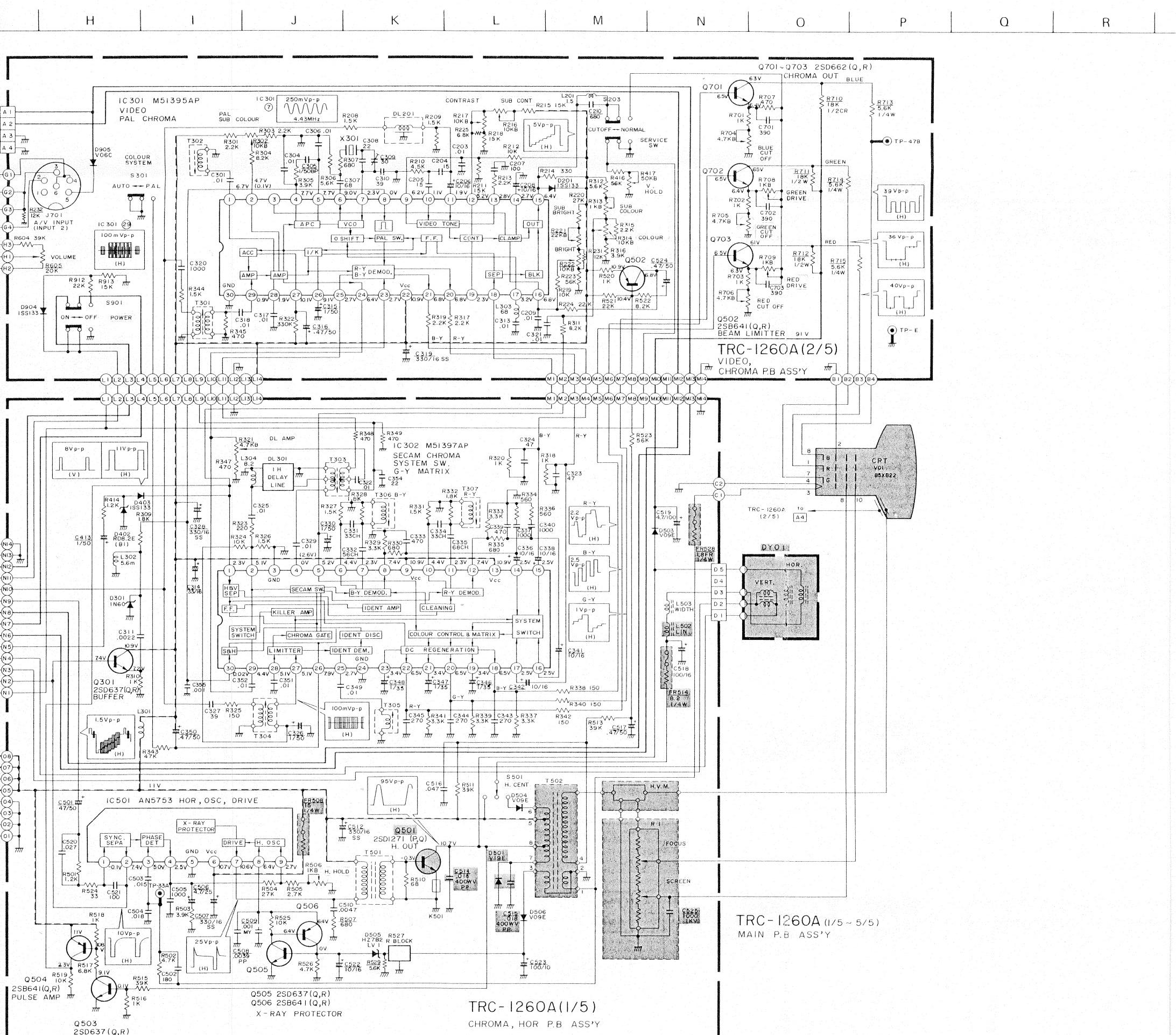
- ALL VOLTAGES SHOW READINGS BY CIRCUIT TESTER (20 kΩ/V) ON RECEPTION OF 1Vp-p COLOR BAR VIDEO SIGNAL.
- ALIGNMENT OPERATION FOR USER SERVICE
- ALL RESISTANCE VALUES ARE IN OHMS.  
K: 1.000 Ω M: 1.000.000 Ω  
WATAGES ARE 1/4 W UNLESS OTHERWISE INDICATED.
- UNSPECIFIED : CARBON RESISTOR ± 5%  
COMP : COMPOSITION RESISTOR ± 10%  
CMR : OXIDE METAL FILM RESISTOR  
CMRF :

- CAPACITANCE VALUES LESS THAN 1 ARE IN μF AND 1 AND ABOVE IN PF EXCEPT THAT ELECT. CAPACITORS ARE IN μF. RATING VOLTAGE IS 50 WV UNLESS OTHERWISE INDICATED.  
TOLERANCE FOR CAPACITANCE:  
 $J \pm 5\%$   $K \pm 10\%$   $M \pm 20\%$   $Z \pm 80\%$
- UNSPECIFIED : CERAMIC CAPACITOR 1000 pF AND ABOVE ± 80%  
LESS THAN 1000 pF ± 5%
- ELECT. CAPACITOR : ± 50% LESS THAN 4.7 μF ± 10%  
CAPACITANCE (μF)/WORKING VOLTAGE

B	THERMAL DEVIATION	± 10%
CH,RH	TEMPERATURE COEFFICIENT	± 5%
PP	POLYPROPYLENE CAPACITOR	± 10%
MY	MYLAR CAPACITOR	± 10%
TA	TANTAL ELECT. CAPACITOR	± 20%
PS	POLYSTYROL CAPACITOR	± 5%
5) SELECTOR SW (POSITION)		
S201	INPUT SELECT SW	
S203	SERVICE SW	
S301	COLOUR SYSTEM SW	
S501	H. CENTER SW	
S901	POWER SW (OFF)	

## SAFETY PRECAUTION

The **Δ** symbol and shaded (■) are critical for safety. Replace only with specified part numbers.



1 ARE IN  $\mu$ F AND 1 AND  
CAPACITORS ARE IN  $\mu$ F.  
S OTHERWISE INDICATED.

$\pm 20\%$

CITOR

BOVE  $\pm 20\%$

00 pF  $\pm 5\%$

AN 4.7  $\mu$ F  $\pm 10\%$

$\mu$ F/WORKING VOLTAGE

B : THERMINAL DEVIATION  $\pm 10\%$   
CH,RH : TEMPERATURE COEFFICIENT  $\pm 5\%$   
PP : POLYPROPYLENE CAPACITOR  $\pm 10\%$   
MY : MYLAR CAPACITOR  $\pm 10\%$   
TA : TANTAL ELECT. CAPACITOR  $\pm 20\%$   
PS : POLYSTYROL CAPACITOR  $\pm 5\%$

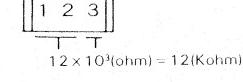
5) SELECTOR SW (POSITION)

- S201 : INPUT SELECT SW  
S203 : SERVICE SW  
S301 : COLOUR SYSTEM SW  
S501 : H. CENTER SW  
S901 : POWER SW (OFF)

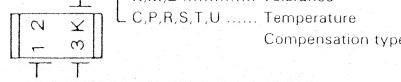
6) SYMBOL NUMBERS OF THE SUBMINIATURE CHIP PARTS  
(RESISTORS, CAPACITORS) ARE NOT UNDERLINED.  
(EX.) R151, C151

VALUES ARE CALCULATED AS FOLLOWS :

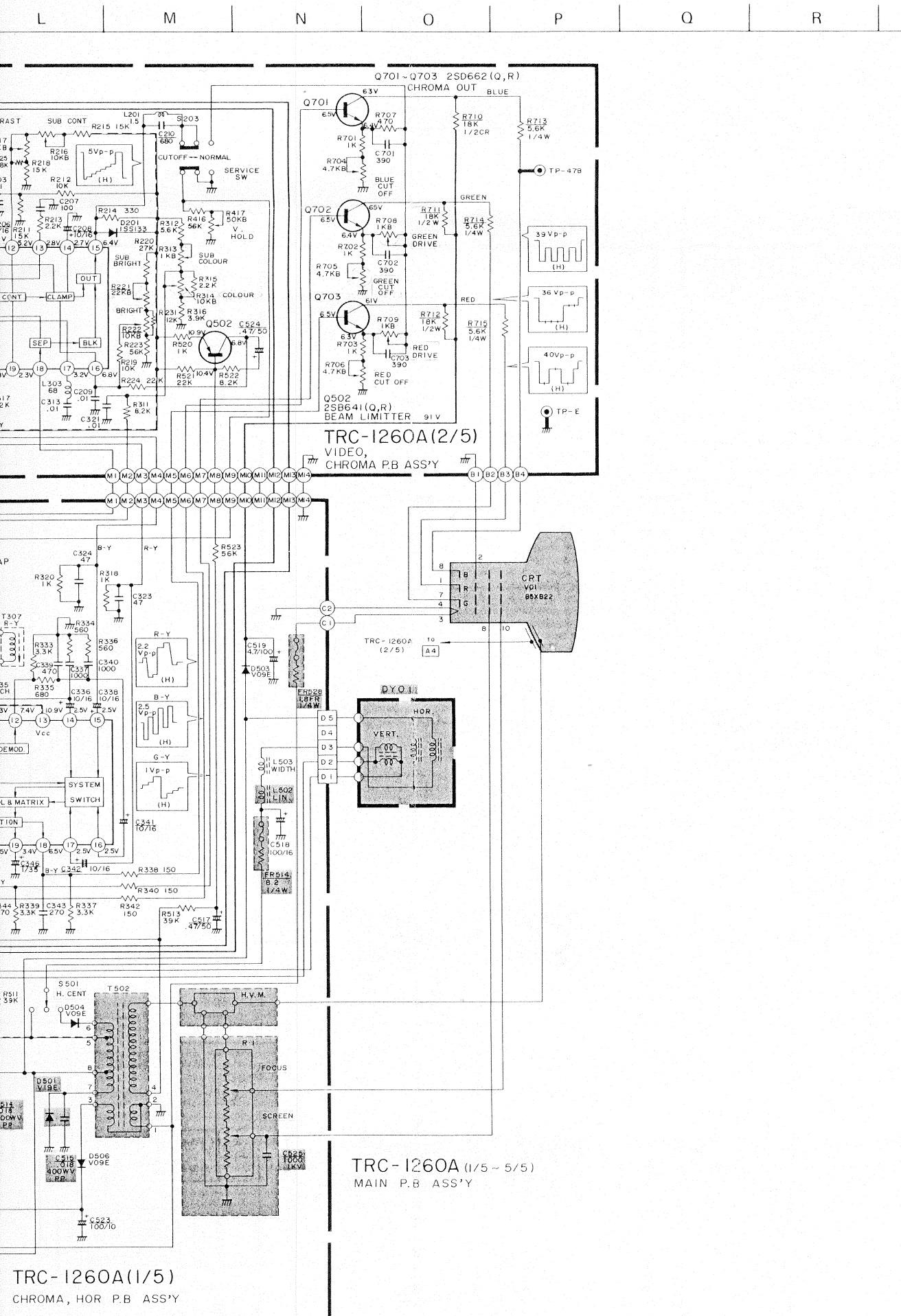
<Chip Resistor>



<Chip Capacitor>



$$12 \times 10^3(\text{PF}) = 12 \times 10^{-3}(\mu\text{F}) = 0.012(\mu\text{F})$$



L NUMBERS OF THE SUBMINIATURE CHIP PARTS  
ORS, CAPACITORS) ARE NOT UNDERLINED.  
51 C151

ARE CALCULATED AS FOLLOWS:

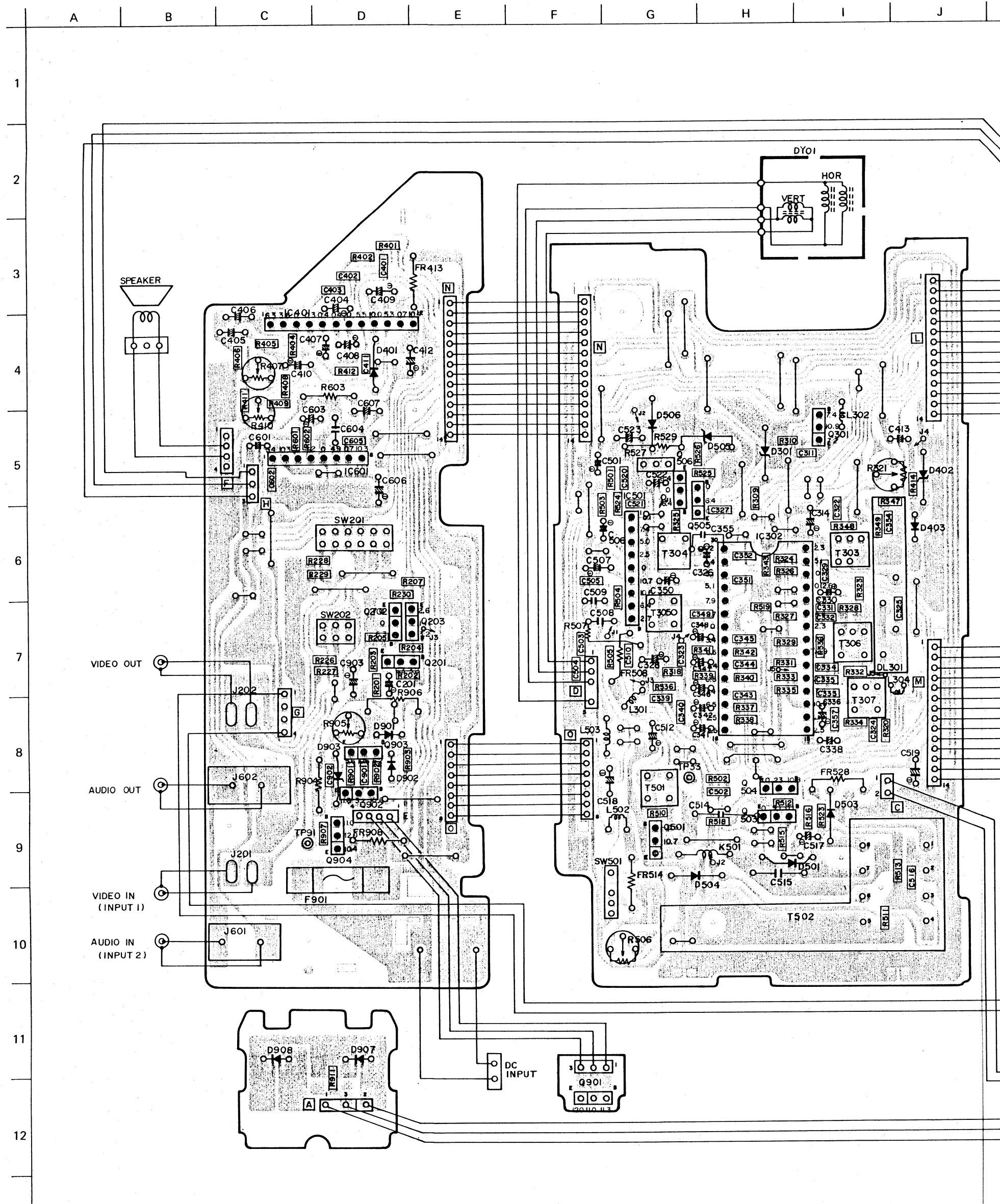
Resistor >  <

2 3

三

$$2 \times 10^3 (\text{ohm}) = 12 (\text{Kohm})$$

### 5.3 CIRCUIT BOARD



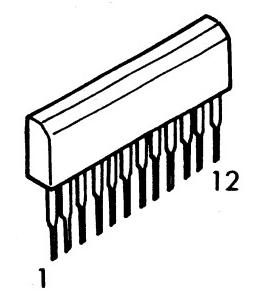
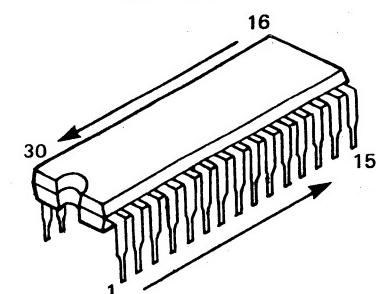
H | I | J | K | L | M | N | O | P | Q | R

**IC & Transistor Basing**

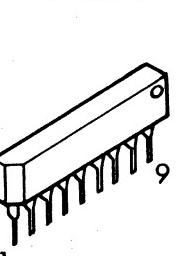
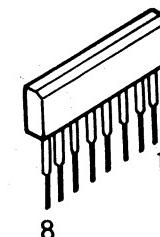
— M51395AP —

— M51397AP —

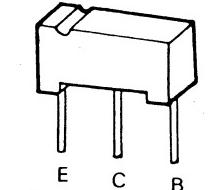
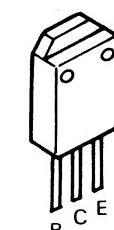
— AN5762 —



— M51182L —

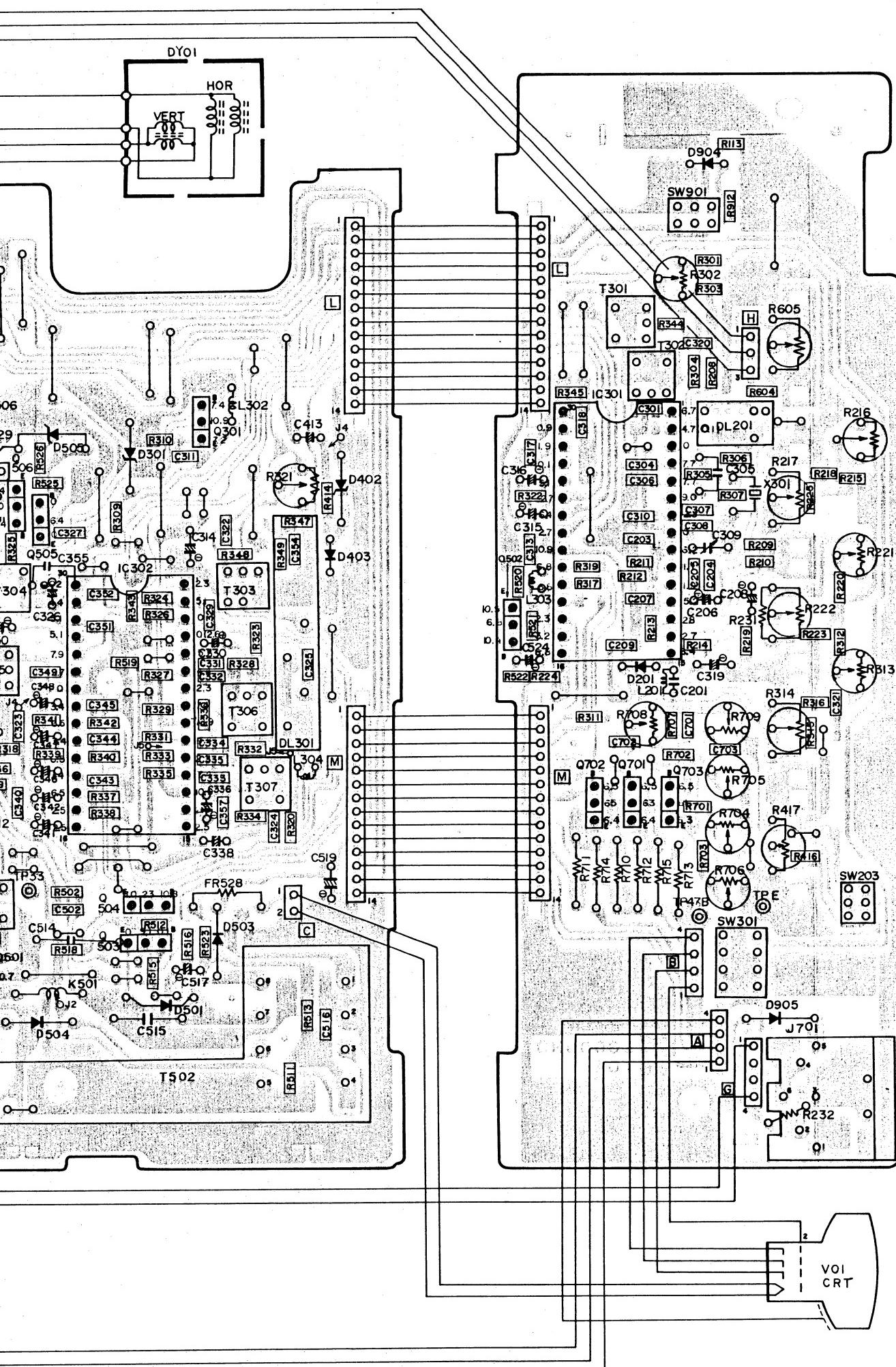
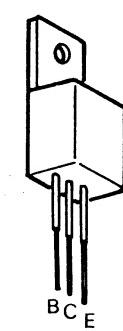


— 2SD1251 (P,Q) —



— 2SA637 (Q,R) —  
— 2SB641 (Q,R) —  
— 2SD637 (Q,R) —  
— 2SD662 (Q,R) —

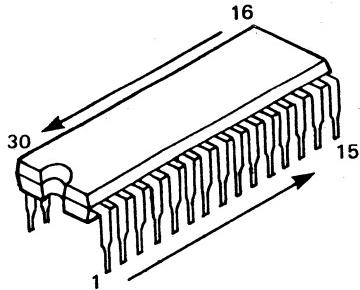
— 2SB945 (P,Q) —  
— 2SD1271 (P,Q) —



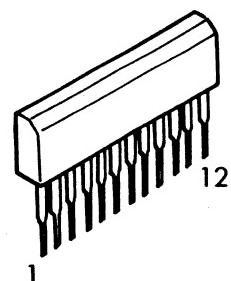
L | M | N | O | P | Q | R |

## IC & Transistor Basing

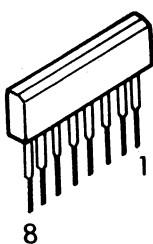
— M51395AP —  
— M51397AP —



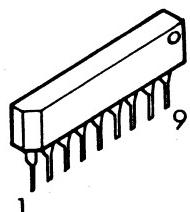
- AN5762 -



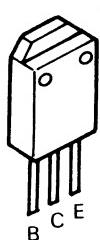
– M51182L –



— AN5753 —



- 2SD1251 (P,Q) -

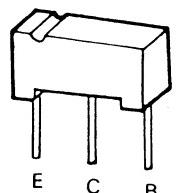


– 2SA637 (Q,R) –

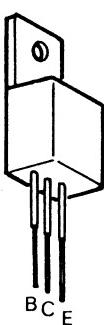
- 2SB641 (Q,R) -

- 2SD637 (Q,R) -

- 2SD662 (Q,R) -



- 2SB945 (P,Q) -
- 2SD1271 (P,Q) -



## SECTION 6

### ELECTRICAL PARTS LIST

#### 1. SAFETY PRECAUTION

Parts identified by the  symbol are critical for safety.  
Replace only with part numbers specified.

#### 2. Abbreviations in this list are as follows:

**RESISTORS** — All resistance values are in ohms ( $\Omega$ ).

K	: 1 000
M	: 1 000 000
CR	: Carbon Resistor
Comp. R	: Composition Resistor
WR	: Wire Wound Resistor
OMR	: Oxide Metal Film Resistor
VR	: Variable Resistor (Potentiometer)
MFR	: Metal Film Resistor
FR	: Fusible Resistor

**CAPACITORS** — All capacitance values are in  $\mu\text{F}$ , unless otherwise indicated.

P	: $\mu\mu\text{F}$
C Cap	: Ceramic Capacitor
E Cap	: Electrolytic Capacitor
FM Cap	: Film Mica Capacitor
MM Cap	: Metalized Mylar Capacitor
MP Cap	: Metalized Paper Capacitor
MY Cap	: Mylar Capacitor
NP Cap	: Non-polar Capacitor
PC Cap	: Polycarbonate Capacitor
PP Cap	: Poly Pro Capacitor
PS Cap	: Polystyrol Capacitor
T Cap	: Tantalum Capacitor
TR Cap	: Trimmer Capacitor
Chip R.	: Chip Resistor
Chip C Cap	: Chip C Capacitor

Tolerances of resistors or capacitors are as follows:

M	: $\pm 20\%$
K	: $\pm 10\%$
J	: $\pm 5\%$
G	: $\pm 2\%$
F	: $\pm 1\%$

#### MAIN PWB ASS'Y TRC-1260A (includes 6.1 ~ 6.5.)

##### 6.1 CHROMA, HOR P.W.B. ASS'Y

Symbol No.	Part No.	Part Name	Description
IC302	M51397AP	Integrated Circuit	Secam
IC501	AN5753	Integrated Circuit	
Q301	2SD637Q,R	Transistor	
 Q501	2SD1271P,Q	Transister	
Q502	—	—	
Q503	2SA637Q,R	Transistor	
Q504	2SB641Q,R	"	
Q505	2SD637Q,R	"	
Q506	2SB641Q,R	"	
D301	IN60	Diode	
D401	—	—	
D402	RD8.2EB1	Zener Diode	
D403	1SS133	Diode	
 D501	V19E	Diode	
D502	—	—	
D503	V09E	Diode	
D504	"	"	
D505	HZ7B2LV1	Zener Diode	
D506	V09E	Diode	
R309	QRS148J-182	Chip R	1.8 k 1/4 W,J
R310	" -102	"	1 k "
R318	QRS148J-102	Chip R.	1 k 1/4 W,J
R319	—	—	
R320	QRS148J-102	Chip R	1 k 1/4 W,J
R321	QVZ3506-472	VR (DL. AMP)	4.7 k
R322	—	—	
R323	QRS148J-221	Chip R	220 1/4 W,J
R324	" -103	"	10 k "
R325	" -151	"	150 "
R326	" -152	"	1.5 k "
R327	" -152	"	1.5 k "
R328	" -182	"	1.8 k "
R329	" -332	"	3.3 k "
R330	" -681	"	680 "
R331	" -152	"	1.5 k "
R332	" -182	"	1.8 k "
R333	" -332	"	3.3 k "
R334	" -561	"	560 "
R335	" -681	"	680 "
R336	" -561	"	560 "
R337	" -332	"	3.3 k "
R338	" -151	"	150 "
R339	" -332	"	3.3 k "
R340	" -151	"	150 "
R341	" -332	"	3.3 k "
R342	" -151	"	150 "
R343	" -473	"	47 k "

Symbol No.	Part No.	Part Name	Description
R344	—	—	
R345	—	—	
R346	—	—	
R347	ORS148J-471	Chip R	470 1/4 W,J
R348	" -471	"	470 "
R349	" -471	"	470 "
R414	QRS148J-122	Chip R	1.2 k 1/4 W,J
R501	QRS148J-122	Chip R	1.2 k 1/4 W,J
R502	" -472	"	4.7 k "
R503	" -392	"	3.9 k "
R504	" -273	"	27 k "
R505	" -272	"	2.7 k "
R506	A75557-102	VR (H. FREQ)	1 k
R507	QRS148J-681	CR	680 1/4 W,J
△ FR508	QRH141J-150	FR	15 "
R509	—	—	
R510	QRS148J-680	Chip R	68 k 1/4 W,J
R511	" -393	"	39 k "
R512	—	—	
R513	QRS148J-393	Chip R	39 k 1/4 W,J
△ FR514	QRH141J-8R2	FR	8.2 k "
R515	QRS148J-393	Chip R	39 k "
R516	" -103	"	1 k "
R517	" -682	"	6.8 k "
R518	" -102	"	1 k "
R519	" -103	"	10 k "
R520	—	—	
R521	—	—	
R522	—	—	
R523	QRS148J-563	Chip R	56 k 1/4 W,J
R524	" -330	"	33 k "
R525	" -103	"	10 k "
R526	" -472	"	4.7 k "
R527	CJ39520-00B	R. Block	
△ FR528	QRH141J-1R8H	FR	1.8 1/4 W,J
R529	QRD142J-562	CR	5.6 k "
C311	QCY81HK-222	Chip C Cap	0.0022 50 V
C314	QEE51CK-336	T Cap	33 16 V
C322	QCY81HK-103	Chip C Cap	0.01 50 V
C323	QCS81HJ-470	"	47 P "
C324	" -470	"	47 P "
C325	QCY81HK-103	"	0.01 "
C326	QEK51HM-105	E Cap	1 P "
C327	QCS81HJ-390	Chip C Cap	39 P "
C328	QEU51CM-337	E Cap	330 16 V
C329	QCY81HK-103	Chip C Cap	0.01 50 V
C330	QEK51HM-105	E Cap	1 P "
C331	QCT81UJ-330	Chip C Cap	33 P 16 V
C332	" -560	"	56 P "
C333	QCS81HJ-471	"	470 P 50 V
C334	QCT81UJ-330	"	33 P 16 V
C335	" -680	"	68 P "
C336	QEK51CM-106	E Cap	10 P "
C337	QCY81HK-102	Chip C Cap	0.001 50 V
C338	QEK51CM-106	E Cap	10 P 16 V
C339	QCS81HJ-471	Chip C Cap	470 P 50 V
C340	QCY81HK-102	"	0.001 "

Symbol No.	Part No.	Part Name	Description
C341	QEK51CM-106	E Cap	10 16 V
C342	" -106	"	10 "
C343	QCS81HJ-271	Chip C Cap	270 P 50 V
C344	" -271	"	270 P "
C345	" -271	Chip C Cap	270 P "
C346	QEE51VK-105	T Cap	1 35 V
C347	" -105	"	1 "
C348	" -105	"	1 "
C349	QCY81HK-103	Chip C Cap	0.01 50 V
C350	QEK51HM-474	E Cap	0.47 "
C351	QCY81HK-103	Chip C Cap	0.01 "
C352	" -103	"	0.01 "
C353	—	—	
C354	QCS81HJ-220	Chip C Cap	22 P 50 V
C355	QCY11HK-102	C Cap	0.001 "
C413	QEK51HM-105	E Cap	1 50 V
C501	QEK51HM-474	E Cap	0.47 50 V
C502	QCS81HJ-181	Chip C Cap	180 P "
C503	QCY81HK-153	"	0.015 "
C504	" -183	"	0.018 "
C505	" -102	"	0.001 "
C506	QEK51EM-475	E Cap	4.7 25 V
C507	QEU51CM-337	"	330 16 V
C508	QFP31HJ-392	PP Cap	0.0039 50 V
C509	QFM71HK-102	MY Cap	0.001 "
C510	QCY81HK-472	Chip C Cap	0.0047 "
C511	—	—	
C512	QEU51CM-337	E Cap	330 16 V
C513	—	—	
△ C514	QFP32GJ-103	PP Cap	0.01 400 V
△ C515	" -183	"	0.018 "
C516	QCY81HK-473	Chip C Cap	0.047 50 V
C517	QEK51HM-474	E Cap	0.47 "
C518	QET51CR-107	"	100 P 16 V
C519	QET52AR-475	"	4.7 100 V
C520	QCY81HK-273	Chip C Cap	0.027 50 V
C521	QCY81HK-101	"	100 P "
C522	QEK51CM-106	E Cap	10 16 V
C523	QET51AR-107	"	100 10 V
C524	—	—	
△ C525	QCZ9017-102	C Cap	1000 1 kV
L301	CE40084-181	Peaking Coil	180
L302	" -562	"	5.6 mH
L303	—	—	
L304	CE40401-8R2	Peaking Coil	8.2μ
K501	CE40155-001	Core	
△ L502	CE40309-001	Linearity Coil	
L503	CE40310-001	Width Coil	
T303	CE40396-001	DL. P Trans	
T304	CE40397-001	Bell Trans	
T305	CE40398-001	Ident Trans	
T306	CE40399-001	Discr Trans	(B-Y)
T307	" -001	"	(R-Y)

Symbol No.	Part No.	Part Name	Description
T501 ⚠ T502	CE40312-001 CJ26038-00A	H. Drive Trans FB Trans	
S501	CEX40223-002	Slide Switch	IH Center SW)
DL301	A76350	IH Delay Line	
⚠	CJ39529-00A CH40305-005 CM40627-001	Focus Pack Connector Base Test Point	D TP-33A

Symbol No.	Part No.	Part Name	Description
R303	QRS148J-222	Chip R	2.2 k 1/4 W,J
R304	" -822	"	8.2 k "
R305	" -392	"	3.9 k "
R306	" -562	"	5.6 k "
R307	" -681	"	680 "
R308	-	-	
R309	-	-	
R310	-	-	
R311	QRS148J-822	Chip R	8.2 k 1/4 W,J
R312	" -562	"	5.6 k "
R313	QVZ3506-102	VR (Sub Colour)	1 k
R314	CEX40208-B14	" (Colour)	10 k
R315	QRS148J-222	Chip R	2.2 k 1/4 W,J
R316	" -392	"	3.9 k "
R317	" -222	"	2.2 k "
R318	-	-	
R319	QRS148J-222	Chip R	2.2 k 1/4 W,J
R320	-	-	
R321	-	-	
R322	QRS148J-334	Chip R	330 1/4 W,J
R344	QRS148J-152	Chip R	1.5 k 1/4 W,J
R345	" -471	"	470 "
R416	QRS148J-563	Chip R	56 k 1/4 W,J
R417	CEX40207-B54	VR (V. HOLD)	50 k
R520	QRS148J-102	Chip R	1 k 1/4 W,J
R521	" -223	"	22 k "
R522	" -822	"	8.2 k "
R604	QRS148J-393	Chip R	39 k 1/4 W,J
R605	CEX40207-D24	VR (VOLUME)	20 k
R701	QRS148J-102	Chip R	1 k 1/4 W,J
R702	" -102	"	1 k "
R703	" -102	"	1 k "
R704	QVZ3506-472	VR (B. CUT OFF)	4.7 k
R705	" -472	" (G. CUT OFF)	4.7 k
R706	" -472	" (R. CUT OFF)	4.7 k
R707	QRS148J-471	Chip R	470 1/4 W,J
R708	QVZ3506-102	VR (G. DRIVE)	1 k
R709	" -102	" (R. DRIVE)	1 k
R710	QRD121J-183	CR	18 k 1/2 W,J
R711	" -183	"	18 k "
R712	" -183	"	18 k "
R713	QRD141J-562	"	5.6 k 1/4 W,J
R714	" -562	"	5.6 k "
R715	" -562	"	5.6 k "
R912	QRS148J-223	Chip R	22 k 1/4 W,J
R913	" -153	"	15 k "
C203	QCY81HK-103	Chip C Cap	0.01 50 V
C204	QCS81HJ-150	"	15 P "
C205	" -150	"	15 P "
C206	QEK51CM-106	E Cap	10 P 16 V
C207	QCS81HJ-101	Chip C Cap	100 P 50 V
C208	QEK51CM-106	E Cap	10 16 V
C209	QCY81HK-103	Chip C Cap	0.01 50 V
C210	QCY31HK-681	C Cap	680 P "

## 6.2 VIDEO, CHROMA P.W.B. ASS'Y

Symbol No.	Part No.	Part Name	Description
IC301	M51395A,P	Integrated Circuit (Video & Pal)	
Q502	2SB641Q,R	Transistor	
Q701	2SD662Q,R	Transistor (Blue)	
Q702	"	" (Green)	
Q703	"	" (Red)	
D201	1SS133	Diode	
D904	1SS133	Diode	
D905	V06C	"	
R208	QRS148J-152	Chip R	1.5 k 1/4 W,J
R209	" -152	"	1.5 k "
R210	" -472	"	4.7 k "
R211	" -153	"	15 k "
R212	" -103	"	10 k "
R213	" -222	"	2.2 k "
R214	" -331	"	330 "
R215	" -153	"	15 k "
R216	QVZ3506-103	VR (Sub Contrast)	10 k
R217	CEX40208-B14	" (Contrast)	10 k
R218	QRS148J-153	Chip R	15 k 1/4 W,J
R219	" -103	"	10 k "
R220	" -273	"	27 k "
R221	QVZ3506-223	VR (Sub Bright)	22 k
R222	CEX40208-B14	" (Bright)	10 k
R223	QRS148J-563	Chip R	56 k 1/4 W,J
R224	" -223	"	22 k "
R225	" -682	"	6.8 k "
R231	QRD162J-123	CR	12 k 1/6 W,J
R232	QRD142J-123	"	12 k 1/4 W,J
R301	QRS148J-222	Chip R	2.2 k 1/4 W,J
R302	QVZ3506-103	VR (Sub Colour)	10 k

### 6.3 AUDIO, POWER & VERTICAL P.W.B. ASS'Y

Symbol No.	Part No.	Part Name	Description
C301	QCY81HK-103	Chip C Cap	0.01 50 V
C302	—	—	—
C303	—	—	—
C304	QCY81HK-103	Chip C Cap	0.01 50 V
C305	QEN51HM-105	BP E Cap	1 "
C306	QCY81HK-103	Chip C Cap	0.01 "
C307	QCY81HJ-680	"	68 "
C308	" -220	"	22 "
C309	A76099-300	Trimmer	30 P
C310	QCS81HJ-390	Chip C Cap	39 P 50 V
C311	—	—	—
C312	—	—	—
C313	QCY81HK-103	Chip C Cap	0.01 50 V
C314	—	—	—
C315	QEK51HM-105	E Cap	1 P 50 V
C316	" -474	"	0.47 "
C317	QCY81HK-103	Chip C Cap	0.01 "
C318	" -103	"	0.01 "
C319	QE51CM-337	E Cap	330 16 V
C320	QCY81HK-102	Chip C Cap	0.001 50 V
C321	" -103	"	0.01 "
C524	QEK51HM-474	E Cap	0.47 50 V
C701	QCS81HJ-391	Chip C Cap	390 P 50 V
C702	" -391	"	390 P "
C703	" -391	"	390 P "
L201	CE40401-1R5	Peaking Coil	1.5
L303	CE40401-680	Peaking Coil	68μ
T301	CE40394-001	B.P Trans	
T302	CE40395-001	C.W Trans	
S203	CEX40223-001	Slide Switch	
S301	AX49472-002	Rotary Switch	
S901	CEX40055-004	Push Switch	
DL201	CE40393-001	Delay Line	
X301	A76090	Crystal	443 MHz
J701	CEX40251-001	Din Socket	AV IN/OUT
	CM40627-001	Test Point	TP-47B
	CH40305-004	Connector Base	A

Symbol No.	Part No.	Part Name	Description
IC401	AN5762	Integrated Circuit	
IC601	M51182L	Integrated Circuit	
Q201	2SD637Q,R	Transistor	
Q202	2SB641Q,R	"	
Q203	2SD637Q,R	"	
△Q902	2SB641Q,R	Transistor	
△Q903	2SD637Q,R	"	
△Q904	2SD1251P,Q	"	
D401	V06C	Diode	
D901	1SS133	Diode	
D902	"	"	
△D903	RD5.6EB1	Zener Diode	
R201	QRS148J-471	Chip R	470 1/4 W,J
R202	" -683	"	68 "
R203	" -333	"	33 "
R204	" -272	"	2.7 "
R205	" -152	"	1.5 "
R206	"	"	
R207	QRS148J-122	Chip R	1.2 1/4 W,J
R226	QRS148J-151	Chip R	150 1/4 W,J
R227	" -151	"	150 "
R228	" -151	"	150 "
R229	" -151	"	150 "
R230	" -102	"	1 k "
R401	QRS148J-472	Chip R	4.7 k 1/4 W,J
R402	" -472	"	4.7 k "
R403	"	"	
R404	QRS148J-6R8	Chip R	6.8 1/4 W,J
R405	" -4R7	"	4.7 k "
R406	" -103	"	10 k "
R407	QVZ3507-104	VR	100 k (V.HEIGHT)
R408	QRS148J-683	Chip R	68 k 1/4 W,J
R409	" -681	"	680 "
R410	QVZ3506-472	VR	4.7 k (V.CENTER)
R411	QRS148J-681	Chip R	680 1/4 W,J
R412	" -150	"	15 "
△FR413	QRH141J-150	FR	15 "
R601	QRS148J-563	Chip R	56 1/4 W,J
R602	" -271	"	270 "
R603	QRD121J-100	CR	10 1/2 W,J
R901	QRS148J-682	Chip R	6.8 k 1/4 W,J
R902	" -152	"	1.5 k "
R903	" -182	"	1.8 k "
△R904	QRV141F-2701	MFR	2.7 k "
△R905	QVZ3506-102	VR	1 k
△R906	QRV141F-3831	MFR	3.83 k 1/4 W,J
R907	QRS148J-221	Chip R	220 "
FR908	QRH141J-150	FR	15 "
C201	QEK51CM-106	E Cap	10 16 V

Symbol No.	Part No.	Part Name	Description
C401	QCY81HK-223	Chip Cap	0.022 50 V
C402	" -223	"	0.022 "
C403	" -103	"	0.01 "
C404	QEE51VK-474	Tantal	0.47 35 TAN
C405	QEE51CK-475	"	4.7 16 TAN
C406	" -475	"	4.7 "
C407	QEK51EM-335	E Cap	3.3 25 V
C408	QEK51CM-106	"	10 P 16 V
C409	QET41CR-107	"	100 "
C410	QEU51CM-337	"	330 "
C411	QCY81HK-223	Chip Cap	0.022 50 V
C412	QEU51CM-337	E Cap	330 16 V
C601	QEK51HM-104	E Cap	0.1 50 V
C602	QCY81HK-103	Chip Cap	0.01 "
C603	QEK51AM-336	E Cap	33 10 V
C604	QFV81HJ-474	TF Cap	0.47 50 V
C605	QCY81HK-152	Chip Cap	0.0015 "
C606	QEU51CM-337	E Cap	330 16 V
C607	QET51AR-107	"	100 10 V
C901	QCY81HK-102	Chip Cap	0.001 50 V
C902	" -102	"	0.001 "
C903	QEU51CM-337	E Cap	330 16 V
△ F901	QMF51A2-R80S	Fuse	0.8A 250 V
S201	CEX40055-005	Push Switct	Function SW
S202	CEX40055-004	"	Impedance SW
J601	CEX40258-001	Jack	AUDIO IN
J602	" -001	"	AUDIO OUT
	A44594-002	Fuse Clip	for F901
	CM40627-001	Test Point	TP-91
	CH40305-004	Connector Base	F,E

#### 6.4 POWER REG P.W.B. ASS'Y

Symbol No.	Part No.	Part Name	Description
△ Q901	2SB945P,Q	Transistor	

#### 6.5 INPUT SELECT IND P.W.B. ASS'Y

Symbol No.	Part No.	Part Name	Description
D907	LN222RP	LED	INPUT 1 BNC
D908	"	"	INPUT 2 DIN
R911	QRS148J-103	Chip R	10 k 1/4 W,J